Klinik und Poliklinik für Psychiatrie und Psychotherapie
der Ludwig-Maximilians-Universität München
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Empowerment for refugees with affective disorders: Development of a culturally sensitive group intervention within the multicenter MEHIRA trial

Dissertation
zum Erwerb des Doktorgrades der Humanbiologie
an der Medizinischen Fakultät der
Ludwig-Maximilians-Universität München

vorgelegt von

Maren Wiechers

aus Ravensburg

2022

Mit Genehmigung der Medizinischen Fakultät
der Universität München

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Tag der mündlichen Prüfung:	28.03.2022

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Abstract

The number of forcibly displaced people worldwide has grown exponentially in the past decade, amounting to 26.4 million refugees and 4.2 million asylum seekers by mid-2020 (United Nations High Commissioner for Refugees [UNHCR], 2021a). Pre- and peri-migration trauma, as well as post-migration stressors have accumulative and interactive effects on refugees' mental health, and can lead to an increased risk for psychological disorders in displaced populations (Deutsche Gesellschaft für Psychiatrie und Psychotherapie [DGPPN], 2016; Georgiadou et al., 2018; Walther et al., 2020). As a result, the inclusion of cultural competence into mental health care services in Germany is a matter of growing relevance (Schouler-Ocak et al., 2015).

The multicenter trial *Mental Health in Refugees and Asylum Seekers* (MEHIRA) was launched in 2017, with the intention of developing a stepped and collaborative care model (SCCM) for refugees and asylum seekers with affective disorders (Böge et al., 2020). Within the SCCM, refugees received culturally sensitive interventions, with the intensity of treatment being tailored to the symptom burden. The SCCM resulted in a reduction of depressive symptoms compared to treatment-as-usual (TAU; Böge et al., 2021). The newly developed *Empowerment* intervention was included in the SCCM, imparting psychoeducation, behavioral activation, stress management, and emotion regulation strategies within an interpreter-based group setting (Wiechers et al., 2019). The aim of the present dissertation is to investigate the efficacy of the Empowerment manual within the MEHIRA trial. My primary hypothesis states that the Empowerment intervention is more effective in reducing self-rated depressive symptoms compared to TAU. My secondary hypothesis assumes that the Empowerment therapy is more effective in improving clinician-rated depressive symptoms, emotional distress, resilience, self-efficacy, behavioral problems, and life quality compared to TAU.

149 refugees with moderate depressive symptoms were randomly assigned to the Empowerment group intervention or TAU. The primary outcome was the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). Secondary outcomes were clinician-rated depressive symptoms assessed by the Montgomery Åsberg Depression Rating Scale (MÅDRS; Montgomery & Åsberg, 1979), emotional distress measured by the Refugee Health Screener-15 (RHS-15; Hollifield et al., 2013), resilience assessed by the Brief Resilience Scale (BRS; Smith et al., 2008), self-efficacy measured by the General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 2010), behavioral problems assessed by the Strengths and Difficulties Questionnaire (SDQ; Muris et al., 2003), and life quality assessed by the World Health Organization Quality of Life questionnaire, brief version (WHOQoL-BREF; World Health

Organization Quality of Life Group [WHOQoL Group], 1998a). All outcome scales were assessed at baseline, at time of post-intervention, at 24-week follow-up, and at 48-week follow-up.

Intention-to-treat (ITT) analyses revealed significant cross level interactions for change from baseline to post-intervention on the PHQ-9, $F_{(1,147)} = 13.32$, $p = 0$, indicating a significant reduction of depressive symptoms in the treatment condition compared to TAU, with a moderate effect size, $d = 0.68$, 95% CI [0.21, 1.15]. For MÅDRS as the dependent variable, analyses showed a main effect of time, $F_{(1,147)} = 15.13$, $p < .001$, together with a significant group by time interaction, $F_{(1,147)} = 6.91$, $p = .01$, pointing towards a greater decrease in depressive symptoms in the intervention group compared to the control group. The intervention's effect size for the MÅDRS was moderate, $d = 0.51$, 95% CI [0.04, 0.99]. Time significantly predicted RHS-15 sum scores, $F_{(1,146)} = 9.04$, $p = .003$, indicating lower levels of emotional distress at time of post-intervention irrespective of group condition. Time by group interactions significantly predicted both BRS, $F_{(1,135)} = 5$, $p = .028$, and SDQ sum scores, $F_{(1,135)} = 5.68$, $p = .02$, indicating a significant increase in resilience, together with a reduction in behavioral problems in the intervention group, compared to the control group. While overall life quality did not change in both study groups, psychological quality of life significantly decreased at time of post-intervention in all participants regardless of group condition, $F_{(1,134)} = 14.34$, $p < .001$. Follow-up analyses revealed a significant time by randomization group interaction for PHQ-9 sum scores, $F_{(3, 444)} = 6.83$, $p = .009$, with post-hoc analyses using t-tests indicating significant differences in slopes for PHQ-9 sum scores between both groups from baseline to post-intervention, $t(216.37) = -3.39$, $p = .001$. Follow-up analyses furthermore showed a significant group by time interaction for SDQ sum scores, $F_{(3, 408)} = 8.44$, $p = .004$, with pairwise comparisons indicating significant differences in slopes between both study groups from baseline to post-intervention, $t(120.84) = -2.32$, $p = .022$.

The findings of the present thesis point towards the efficacy of the Empowerment intervention compared to TAU in a sample of refugees and asylum seekers with moderate depressive symptoms. The Empowerment intervention is, to the best of my knowledge, the first manual that equips German-speaking therapists with the knowledge to treat refugees with depressive symptoms within a manualized group therapy approach. With possible uses of the intervention in both in- and outpatient care settings or refugee accommodations, the present work has a high practical relevance for improving the mental health care situation of refugees with affective disorders.

Zusammenfassung

Die Zahl der vertriebenen Menschen weltweit ist im vergangenen Jahrzehnt exponentiell gestiegen. Mitte des vergangenen Jahres waren erstmals über 80 Millionen Menschen auf der Flucht, davon 26,4 Millionen Flüchtlinge und 4,2 Millionen Asylsuchende (UNHCR, 2021a). Flüchtlinge und Asylbewerber sind multiplen und komplexen Stressoren vor, während und nach der Flucht ausgesetzt, die ihre psychische Gesundheit nachhaltig beeinflussen können (DGPPN, 2016; Georgiadou et al., 2018; Walther et al., 2020). Der Einbezug kultureller Kompetenzen in psychotherapeutische Dienstleistungen und die kulturelle Adaptation bestehender Interventionen gewinnt infolgedessen zunehmend an Bedeutung (Schouler-Ocak et al., 2015).

Das multizentrische Projekt *Mental Health in Refugees and Asylum Seekers* (MEHIRA) setzte sich 2017 zum Ziel, ein gestuftes Versorgungsmodell für Flüchtlinge und Asylbewerber mit affektiven Erkrankungen zu entwickeln und dessen Wirksamkeit im Vergleich zu einer Routineversorgung zu untersuchen (Böge et al., 2020). Im Rahmen des MEHIRA-Projektes kam auch die neu entwickelte *Empowerment* Intervention erstmals zum Einsatz (Wiechers et al., 2019). Innerhalb dieser erlernen Flüchtlingen mit Depressionen, in einem dolmetschergestützten Gruppensetting, Wissen und praktische Fertigkeiten, die sie zu einem funktionalen Umgang mit depressiven Symptomen und Stress im Alltag befähigen. Das Ziel der vorliegenden Dissertation ist es, die Wirksamkeit der Empowerment Intervention im Rahmen des MEHIRA-Projektes zu untersuchen. Meine primäre Hypothese ist, dass die Empowerment Gruppentherapie zu einer signifikanten Reduktion der selbstberichteten depressiven Symptomatik im Vergleich zur Routineversorgung führt. Meine sekundäre Hypothese besagt, dass die Empowerment Intervention klinisch erfasste depressive Symptome, emotionale Belastungen, Resilienz, Selbstwirksamkeit, verhaltensbezogene Probleme und Lebensqualität im Vergleich zur Routineversorgung signifikant verbessert.

149 Geflüchtete mit depressiven Symptomen wurden randomisiert der Empowerment Gruppenintervention oder der Routineversorgung (treatment-as-usual [TAU]) zugeteilt. Primärer Zielparameter war der Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). Sekundäre Zielparameter waren klinisch erfasste depressive Symptome, gemessen mit der Montgomery Åsberg Depression Rating Scale (MÅDRS; Montgomery & Åsberg, 1979), emotionale Belastung, erfasst durch den Refugee Health Screener-15 (RHS-15; Hollifield et al., 2013), Resilienz, gemessen mit der Brief Resilience Scale (BRS; Smith et al., 2008), Selbstwirksamkeit, erfasst durch die General Self-Efficacy Scale (GSE; Schwarzer &

Jerusalem, 2010), verhaltensbezogene Probleme, gemessen mit dem Strengths and Difficulties Questionnaire (SDQ; Muris et al., 2003) und Lebensqualität, erfasst mit dem World Health Organization Quality of Life Fragebogen (WHOQoL-BREF; WHOQoL Group, 1998a). Alle Skalen wurden zu Beginn der Studie, nach Ende der Intervention sowie nach 24 Wochen und nach 48 Wochen erhoben.

Intention-to-treat (ITT) Analysen zeigten signifikante Interaktionen von Messzeitpunkt und Gruppenbedingung für den PHQ-9, $F_{(1,147)} = 13.32$, $p = 0$, was auf eine signifikante Reduktion selbstberichteter depressiver Symptome in der Interventionsbedingung, im Vergleich zur Kontrollbedingung, hinweist. Die Effektstärke war moderat, $d = 0.68$, 95% CI [0.21, 1.15]. Für den MÅDRS zeigte sich neben einem Haupteffekt von Zeit, $F_{(1,147)} = 15.13$, $p < .001$, eine signifikante Interaktion von Gruppenbedingung und Messzeitpunkt, $F_{(1,147)} = 6.91$, $p = .01$, die auf eine stärkere Reduktion der klinisch gemessenen depressiven Symptomatik in der Interventionsbedingung, im Vergleich zur Kontrollbedingung, hindeutet. Für den RHS-15 zeigte sich ein Haupteffekt von Zeit, $F_{(1,146)} = 9.04$, $p = .003$, der bei allen Teilnehmern auf eine geringere emotionale Belastung zum Zeitpunkt der Post-Messung hinweist. Signifikante Interaktionen von Gruppenbedingung und Zeit sagten Summenwerte der BRS, $F_{(1,135)} = 5$, $p = .028$, und des SDQ, $F_{(1,135)} = 5.68$, $p = .02$, vorher, was auf einen höheren Anstieg der Resilienz und eine stärkere Reduktion der verhaltensbezogenen Probleme in der Interventionsbedingung, im Vergleich zur Kontrollbedingung, hindeutet. Follow-up Analysen über alle Messzeitpunkte hinweg zeigten eine signifikante Interaktion von Gruppenbedingung und Zeit für die PHQ-9 Summenwerte, $F_{(3, 444)} = 6.83$, $p = .009$, mit signifikanten Unterschieden in den Steigungen für die PHQ-9 Werte in beiden Gruppen zwischen Studienbeginn und Interventionsende, $t(216.37) = -3.39$, $p = .001$. Auch für den SDQ zeigte sich in den Follow-up Analysen eine signifikante Interaktion von Gruppenbedingung und Zeit, $F_{(3, 408)} = 8.44$, $p = .004$. Post-hoc Analysen fanden auch hier signifikante Unterschiede in den Steigungen für die SDQ Werte in beiden Gruppen zwischen Studienbeginn und Interventionsende, $t(120.84) = -2.32$, $p = .022$.

Die Ergebnisse meiner Dissertation belegen die Wirksamkeit der Empowerment Intervention im Vergleich zur Routineversorgung in einer Stichprobe von Flüchtlingen und Asylbewerbern mit depressiven Symptomen. Die Empowerment Intervention ermöglicht es deutschsprachigen Therapeuten erstmals, Flüchtlinge mit Depressionen im Rahmen eines manualisierten Gruppentherapieansatzes wirksam zu behandeln. Mit Einsatzmöglichkeiten des Manuals in der stationären und ambulanten Versorgung sowie in Flüchtlingsunterkünften hat die vorliegende Arbeit eine hohe Praxisrelevanz und leistet einen Beitrag zur transkulturellen Öffnung psychotherapeutischer Versorgungsstrukturen für Menschen mit Fluchterfahrungen.

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Abbreviations

BAMF	Bundesamt für Migration und Flüchtlinge
BRS	Brief Resilience Scale
CA-CBT+	Culturally-adapted Cognitive Behavioral Therapy plus problem solving
CBT	Cognitive Behavioral Therapy
CI	Confidence interval
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th edition
eCRF	electronical Case Report Form
ES	Effect Size
GSE	General Self-Efficacy Scale
HTQ	Harvard Trauma Questionnaire
ITT	Intention-to-treat
KKS	Koordinierungszentrum für klinische Studien
LMM	Linear mixed model
MÅDRS	Montgomery Åsberg Depression Rating Scale
MEHIRA	Mental Health in Refugees and Asylum Seekers
MINI	Mini International Neuropsychiatric Interview
NA	Not available
OR	Odds Ratio
PHQ-9	Patient Health Questionnaire-9
PP	Per protocol
PSYCHLOPS	Psychological Outcome Profiles
PTSD	Post-Traumatic Stress Disorders
RHS-15	Refugee Health Screener-15
SCCM	Stepped and Collaborative Care Model
SDQ	Strengths and Difficulties Questionnaire
SPSS	Statistical Package for the Social Sciences
TAU	Treatment-as-usual
UNHCR	United Nations High Commissioner of Refugees
WHOQoL-BREF	World Health Organization Quality of Life questionnaire, brief version

1. Introduction

> We live in an increasingly diverse world, in which involuntary migration is both a current issue and one for the years to come. The growth in migrant numbers arriving in Europe creates challenges that require a rapid humanitarian response and put pressure on mental health systems. (Zsuzanna Jakab, World Health Organization, Regional Director for Europe, in Hannigan et al., 2016, p. 7)

The global population of persons forcibly displaced due to persecution, human rights violations, and war is on the rise. By now, more than one percent of the global population – or one in 97 people – is displaced (UNHCR, 2021a). This compares to 1:174 in 2005 and 1:159 in 2010, as the increase in the worldwide population of forcibly displaced persons continues to outpace global population growth (UNHCR, 2021a). 2021 marks the 70th anniversary of the 1951 Convention Relating to the Status of Refugees. In view of the steadily increasing numbers of displaced persons worldwide, this legal instrument has never been more relevant (UNHCR, 2021a).

Forced migration is frequently accompanied by the exposure to potentially traumatic events in the country of origin and during flight, with these events often being prolonged, repeated, and interpersonal in nature (Byrow et al., 2020). Arriving in the country of refuge, postmigration stressors, embedded within the economic, social political, and physical environment of the individual put a strain on everyday life (Byrow et al., 2020; Miller & Rasmussen, 2010; Nickerson et al., 2014; Steel et al., 2006). Contemporary frameworks integrate both trauma-focused and psychosocial models, acknowledging that pre-migration trauma and ongoing stressors in the country of asylum have accumulative effects on refugees' mental health (Hou et al., 2020; Miller & Rasmussen, 2010). Clinical data confirm that forced migration does not unequivocally lead to psychopathology (Nickerson, 2018; Priebe et al., 2016), and may even entail an opportunity for post-traumatic growth and resilience (Simich & Andermann, 2015; Papadopoulos, 2007; Slobodin & de Jong, 2015). Yet, numerous studies indicate increased prevalence rates for psychological disorders in refugees compared to the native-born population (Carta et al., 2005; Fazel et al., 2005) and economic migrants (Hollander et al., 2016; Mewes et al., 2017), including higher rates for post-traumatic stress disorders (PTSD; Fazel et al., 2005; Lindert et al., 2018), other anxiety disorders (Birman & Tran, 2008; Bogic et al., 2015), and affective disorders (Lindert et al., 2009, 2018; Steel et al., 2009).

While it is very difficult to predict global forced displacement, it is assumed that the interplay between food shortages, climate change, poverty, extremism, and persecution will continue to create increasingly complex emergencies in the future, resulting in increasingly high numbers of forcibly displaced persons worldwide (UNHCR, 2021a). The mental health of refugees has therefore been identified as a key challenge in global mental health (Balon et al., 2016; Daar et al., 2018). Countries of transition and resettlement are tasked with establishing efficient treatment options for refugees and asylum seekers, that are no longer disentangled from the respective mental health care system. Existing psychological concepts and psychotherapeutic interventions, predominantly responding to the needs of individuals from industrialized Western states, have to be adapted in a culturally sensitive manner by incorporating common values and factors specific to displacement and flight (Chowdhary et al., 2014; Griner & Smith, 2006; Schouler-Ocak et al., 2015). The development of interventions for the special needs of refugees also includes the consideration of how these therapies can be made accessible. Current research illustrates widespread challenges among refugees and asylum seekers in accessing mental health care services for forcibly displaced persons, including a lack of awareness of one's own mental health and available mental health care services (Bartolomei et al., 2016; Fazel et al., 2016; Leavey et al., 2007; Markova & Sandal, 2016), negative attitudes towards treatment (Markova & Sandal, 2016), fear of stigmatization within the own community (Bartolomei et al., 2016; Fazel et al., 2016; Jankovic et al., 2011), and a lack appropriate interpreting services (Bajbouj, 2016; Jankovic et al., 2011; Jensen et al., 2013; Priebe et al., 2013).

The multicenter trial *Mental Health in Refugees and Asylum Seekers* (MEHIRA), launched in 2017, aimed to bypass some of these barriers by developing and implementing a stepped and collaborative care model (SCCM) for refugees and asylum seekers with affective disorders (Böge et al., 2020). Within the SCCM, refugees received culturally sensitive psychotherapeutic interventions on one of four levels, with the intensity of treatment being tailored to the symptom burden. With minimal depressive symptoms, participants entered the watchful waiting stage on level one of the SCCM. When expressing mild to moderate depressive symptoms, a peer-to-peer group intervention or a smartphone application was provided on the second level. With moderate depressive symptoms, participants received the newly developed *Empowerment* group psychotherapy on level three (Wiechers et al., 2019). On level four, individual psychotherapy was provided for patients with severe depressive symptoms. Within the MEHIRA trial, the SCCM resulted in a significant reduction of depressive symptoms compared to treatment-as-usual (TAU; Böge et al., 2021).

The aim of the present dissertation is to present the process of conceptualizing the Empowerment group intervention and to examine its efficacy within secondary analyses of the MEHIRA trial. The first chapter present the theoretical background on which the dissertation is based. Section 1.1 defines underlying terms in the context of migration and refugee research. Figures on forced migration movements to Germany in recent years are presented in section 1.2. Section 1.3 presents phase-based models of migration processes. The psychological mechanisms underlying these processes are discussed in section 1.4. I present research on the outcomes of forced migration and the latest data for mental illnesses among refugees and asylum seekers in section 1.5. Section 1.6 discusses dimensions of culturally sensitive approaches to psychotherapy for refugees and asylum seekers, with a particular focus on the use of interpreters. Building on this, section 1.7 introduces the MEHIRA trial as a contextual framework for the present dissertation project and section 1.8 presents the process of developing the Empowerment intervention as a group therapy approach to the treatment of depressive disorders in refugees with the involvement of language mediators. The first chapter concludes with section 1.9, presenting the hypotheses of my dissertation project. The methods for examining the efficacy of the Empowerment intervention in a sample of 149 refugees from Afghanistan, Iran, Iraq, and Syria, who were randomly assigned to the Empowerment intervention or TAU, are presented in chapter 2. Chapter 3 present the results for both intention-to-treat (ITT) and per protocol (PP) analyses. In chapter 4, I discuss the practical implications, strengths, and limitations of my work and point out future research questions in the field of transcultural psychotherapy research.

Within my dissertation, I aim to present a differentiated picture of how we can treat refugees with affective disorders within a culturally sensitive group therapy approach. I share practical experiences and challenges that I have faced – for the latter, I propose solutions, as far as I can. The findings of my doctoral thesis make me advocate for an intercultural opening of existing psychotherapeutic care structures, in which the treatment of forcibly displaced persons is not an extraordinary challenge but rather an integral and accessible part of local health care supply structures.

1.1 Terminology: Definition of essential terms and constructs

In the context of transcultural psychotherapy, terms and definitions used may differ substantially in their meaning depending on the respective mindset or theoretical framework in which the notion is applied. However, when investigating the psychological consequences of refugee migrations, who belongs by definition to a certain group is of crucial importance, as is the knowledge of the terminology at hand when working in a culturally sensitive context. Central terms and concepts for the presented work are therefore introduced below.

1.1.1 Immigrants – refugees – asylum seekers: defining migrant groups

Migration is defined as the long-term or permanent relocation of one's residence into another culture (Machleidt, 2007). It may involve a person moving to seek a better future, find employment, or avoid political or religious persecution. Migration may concern an individual or a group of people, may be temporary, permanent, or seasonal and may happen on a national or international scale (Bhugra, 2004). Factors that start migration processes and keep them going once they begun, understood as *drivers* of migration, vary and may encompass economic, environmental, or demographic factors that drive people out of places of origin (*push*-factors) and pull them into destination places (*pull*-factors; Klaus & Pachocka, 2019; Van Hear et al., 2018). This results in acts of migration that vary on a continuum between voluntary and forced, most often including both push- and pull-factors (Bhugra et al., 2011; Lindert et al., 2008). The various experiences and reasons why people relocate suggest that the process of migration is both qualitatively and quantitatively a highly heterogenous one (Bhugra, 2004; Bhugra et al., 2011; Lindert et al., 2008).

Consequently, and with a legal definition lacking on an international level, the notion 'migrant' is often used as an umbrella term to cover an extremely diverse group of individuals, as for instance expats, second- or third-generation immigrants, refugees, and asylum seekers (Machleidt & Calliess, 2004; Machleidt, 2005). After the introduction of the Microcensus Act in 2004, Germany increasingly moved away from the term migrant and increasingly spoke of people with a migration background, thereby intending to avoid "othering" people who live in Germany in the second or third generation (Kluge, 2014). Moreover, the denotation migrant is often understood to imply a voluntary process, which means that the notion must be clearly differentiated from more specific terms such as refugee or asylum seeker. Blurring the terms migrant and refugee together would take away the attention from the specific legal protection refugees and asylum seekers require. A refugee is defined as a person who has been forced to flee from his or her country because of persecution, war, or violence with reasons for

persecution being race, religion, nationality, political opinion, or membership in a particular social group (UNHCR, 2019). An asylum seeker is an individual who was forced to leave his or her country but whose request for sanctuary has yet to be processed by the respective state authority (UNHCR, 2019). An irregular migrant is an individual who does not have a residence permit entitling regular stay in a target country, due to an irregular entry into the country, visa overstay or an unsuccessful asylum application (Hannigan et al., 2016). The reasons why irregular migrants leave their home countries are mostly similar to those of refugees and asylum seekers, but with no entitlement to stay, they often have poorer access to health care services (Priebe et al., 2016).

With ever evolving historical, political and societal processes that continuously shape and change the describing groups and their names, finding the correct terminology remains a challenge and is at the same time of particular importance. The present work therefore tries to avoid non-specific terms and instead attempts to precisely identify the samples in presented research results whenever possible. Finally, in public debate and even among research specialists, the terms migrant and immigrant are often used interchangeably. And although there are occasional views stating that the term immigrant defines individuals who are long-term resettled to a new country while the term migrant refers to temporary residents (Anderson & Blinders, 2015), both terms are used synonymously in the present work.

1.1.2 Conceptualizing culture

One of the challenges in the field of transcultural mental health care is terminological and conceptual in nature. Race, ethnicity, and culture are intimately related, yet, distinct concepts that are frequently used interchangeably (Qureshi & Collazos, 2011). To avoid methodological ambiguities and practitioner confusion, a precise definition of these terms in the field of transcultural health care is necessary (Helms & Piper, 1994).

Race is defined as a grouping of humans into categories based on shared physical or social qualities, often including a biological connotation (Grosfoguel, 2004; Schaefer, 2008). Associations of race with ideologies has led to the broad scientific agreement that typological conceptualizations of race are untenable, a view which is shared in the present work. The less ambiguous concept of ethnicity is defined as a category of people who identify with each other on the basis of similarities (e.g. language, history, nation) or the same residing area (Peoples & Bailey, 2011). Although closely related to the concept of race, ethnicity is more a matter of cultural identity, while race is applied as a taxonomic grouping. However, there are voices

advocating the term ‘racial/ethnic identity’, stating that both constructs are too closely intertwined to speak of two separate concepts (Grosfoguel, 2004).

With a universally accepted definition of culture lacking, most entail a type of characteristic or typical pattern of thought and behavior that are shared by a group (Kagawa-Singer, 2000). Culture is transmitted from generation to generation in day-to-day interactions, leading to explicit and implicit knowledge about social, emotional, and behavioral norms of the respective culture (Batista-Pinto Wiese, 2010). Culture goes beyond the concepts of race and ethnicity by assuming that one’s cultural identity is a rather dynamic process, adaptive to environmental changes and demands. Each individual therefore belongs to multiple cultural groups that are influenced by gender, age cohort, socioeconomic status, profession and geographic locale (Mahoney et al., 2006). As a result, addressing the social context is a critical component of cultural competence and attempting to disentangle cultural and social factors, yet recognizing their mutual influence, is a challenge as well as an important task (Betancourt et al., 2005; Betancourt et al., 2003). The present work therefore refers to *sociocultural* factors or barriers in the context of transcultural mental health services to emphasize this connection.

In the context of encounters between cultures, be it in the professional or private environment, the terms intercultural, cross-cultural and transcultural are often used synonymously. And although closely related, it is worthwhile to examine their differences more closely. The term cross-cultural applies to something covering more than one culture, yet not necessarily suggesting any interplay between the individuals or groups concerned (Fries, 2009). The term intercultural indicates exactly such an interaction, yet, both notions rather emphasize the differences between the cultural backgrounds of two individuals or groups. Current migration scholarship has seen an increasing emphasis on the transcultural nature of cross-cultural encounters (Hoerder, 2012; Marotta, 2014). The term transculturalism assumes that in today’s society, people from different parts of the world are networked through migration, expanded communication and economic interdependencies, and are therefore in constant exchange with the cultural reference systems of other persons (Kluge, 2014). In this sense, the term transcultural is also used preferentially in the present work.

1.2 Forced migration worldwide in recent years

With a total of at least 100 million people forcibly displaced due to war, persecution, or violations of human rights, the years of 2010 - 2019 have been a decade of displacement. While tens of millions of people were able to relocate to third countries or return to their homes, the number of newly displaced people in the past years far exceeded those who found a long-term

solution. As a result, the number of forcibly displaced people has nearly doubled over the past 10 years, steadily growing from 41 million in 2010, to 79.5 million by the end of 2019 (UNHCR, 2021a).

The continuing growth in newly displaced persons was especially concentrated between 2012 and 2015. Entering its fifth year in 2015, the war in the Syrian Arab Republic generated large refugee flows, resulting in 11.7 million displaced persons, including 4.9 million refugees, 6.6 million internally displaced persons, and 250 000 asylum seekers (UNHCR, 2016). Other unresolved conflicts and new crises also contributed to the increase in global forced displacement between 2012 and 2015, including new or reignited crises in Burundi, Iraq, Niger, and Nigeria, together with unresolved conflicts in Afghanistan, Somalia, the Central African Republic, the Democratic Republic of Congo, South Sudan, and Yemen (UNHCR, 2016). As a consequence, 1.8 million people – or 24 persons per minute – were newly displaced in 2015 (UNHCR, 2016).

More than half of all refugees worldwide came in 2015 from the Syrian Arab Republic (4.9 million), Afghanistan (2.7 million), and Somalia (1.1 million; UNHCR, 2016). In the years that followed, Syria and Afghanistan remained among the top five countries of origin for refugees. The latest numbers available date back to 2019, identifying the Syrian Arab Republic (6.6 million), Venezuela (3.7 million), Afghanistan (2.7 million), South Sudan (2.2 million) and Myanmar (1,1 million) as the primary places of origin for displaced persons worldwide (UNHCR, 2021a). A total of 2/3 – or 68% – of all refugees worldwide originated form these five countries (UNHCR, 2021a).

1.2.1 Germany as a destination for forcibly displaced persons

Over the past decades, Germany has been shaped by migration flows and is now primarily considered a country of immigration. Germany experienced its last major influx in immigration numbers in 2015, when an increased movement from conflict-affected areas in the Middle East resulted in more than 1 million people reaching Europe by sea (UNHCR, 2016). As a consequence, Germany registered its highest immigration rate since 1950, resulting in 890 000 registrations of asylum seekers in 2015 (Bundesamt für Migration und Flüchtlinge [BAMF], 2016). The majority of those seeking protection from non-European countries originated from the Syrian Arab Republic, Afghanistan, and Iraq (UNHCR, 2016). Within Europe, Romania and Poland were the main countries of origin for people seeking refuge in Germany in 2015 (BAMF, 2016). The number of asylum applications remained high in 2016 (772 370), followed by a sharp decrease in 2017 (198 317) and 2018 (161 931). This trend

continued in 2019, when the total number of people applying for asylum (142 509) fell, for the first, time below the number of 2014 (BAMF, 2020). Despite a decline in new asylum applications in recent years and increased efforts to repatriate rejected asylum applicants, the total number of forcibly displaced persons residing in Germany remains high. At the end of 2019, 1.8 million people, who stay in Germany due to humanitarian or political reasons, were registered in the central foreigner register (Statistisches Bundesamt, 2020).

1.3 Modelling processes of forced migration

Of all the changes that a person is confronted with during their life, few are as extensive and complex as those that take place in the course of forced migration (Kirkcaldy et al., 2006). The person who changes from his own familiar culture to another unfamiliar context will try to adapt to this process in different ways. If we aim to develop interventions that are both tailored to the needs of displaced populations and target causal and maintaining factors of refugee mental health, understanding peoples` emotional experiences before, during, and after displacement is of critical importance (Nickerson, 2018). Dynamic migration models enable us to develop such an understanding, by mapping migration processes as successive phases, that are subject to regularity across both cultures and situations, with each phase presenting its own phenomenology, specific types of stressors, and available coping mechanisms (Kizilhan, 2018; Machleidt & Heinz, 2011; Sluzki, 2010; Sluzki 1979).

Oberg (1954) was the first to extensively research emotional states during and as a result of migration within a phase-based approach. His original assumptions were later taken up and further developed from a psychoanalytical point of view (Grinberg & Grinberg, 1984) and within a systemic perspective (Sluzki, 2010; Sluzki, 1979). These earlier models were developed for migrants who, at least to some extent, voluntarily left their homes. Building on Crisp's (1999) and Wahlbeck's (2002) arguments, that theories of diaspora and transnationalism may also be applied to refugee movements, Kizilhan (2018) further developed the model to include refugees and asylum seekers. The majority of phase-based migration models assume that migration processes can be segmented into five phases, namely the *preparatory phase*, the *act of migration*, the *phase of overcompensation*, the *phase of decompensation* and *phase of transgenerational impact*, which in turn can be assigned to the time of pre-migration, the migration act itself and the time of post-migration. The following paragraphs exemplarily outline the five phases of a forced migration process, linking each phase to research findings on pre-, peri-, and post-migration stressors.

1.3.1 Pre-migration stage

The circumstances that people are exposed to for years or months prior to flight often place people under constant stress and put them at an increased risk of traumatization. The mean number of potentially traumatic events people report prior to displacement show a high variance depending on the study population and instruments used. In a sample of refugees from the Middle East, Afghanistan, Sub-Saharan Africa, and Myanmar relocated to Australia, a mean of 2.1 (*SD* = 1.4) potentially traumatic events were reported (Chen et al., 2017). Refugees from Turkey, Iran, Sri Lanka, Bosnia, Iraq, and Afghanistan seeking treatment in an outpatient department in Switzerland reported a mean number of 12.3 (*SD* = 4.5) potentially traumatic events, with torture, enforced isolation from others and imprisonment being the most frequently mentioned experiences (Nickerson et al., 2015).

Eventually, a process of weighing up the pros and cons that ultimately leads to a decision to leave or stay is initiated. When looking at the implicit processes of decision-making preceding the conclusion to migrate, refugees risk preferences have characteristics that clearly distinguish them from other populations. When modelling decision-making processes regarding the flight using Cumulative Prospect Theory, refugees exhibit a lower aversion to loss and put a higher weight on very good outcomes (Bocquého et al., 2019; Tanaka et al., 2010). Looking at utility concavity, women and individuals who faced traumatic experiences before fleeing show a higher risk aversion than men or people who were not exposed to trauma (Bocquého et al., 2019).

The preparatory phase begins with first concrete moves by family members towards a commitment to migrate. These actions may include getting in contact with people who have already relocated to the target country, acquiring resources necessary for migration, planning migration routes and contacting smugglers (Sluzki, 2010; Sluzki, 1979).

1.3.2 The act of forced migration

The act of migration is a transition with little to no prescribed rituals. Although the resettlement itself may only take a few hours (e.g. in the case of a plane ride), for individuals displaced by war, this period usually spans weeks to months, often including intermediary stays in countries of transition or internment camps. This protracted process often leads to strong allegiances amongst people exposed to the same adverse conditions, to the point where acquaintances made during the flight become a primary social network (Sluzki, 2010; Sluzki, 1979). During the actual relocation, those affected are often confronted with peri-flight stressors, including a lack of basic survival necessities (e.g. food and shelter), difficult access

to emergency health care, and poor sanitary conditions (Thomas, 2004). The most frequent potentially traumatic events during flight include separation from family, kidnapping, sexual violence, or extortion (Mangrio et al., 2018).

The process of forced migration also includes a decision about the direction of flight (BenEzer & Zetter, 2015). Whereas the decision to migrate is primarily a reaction to push-factors in the country of residence, pull-factors determine where a person seeks refuge (Rüegger & Bohnet, 2018). Studies on the direction of flight identified geographic proximity as one of the most important factors influencing flight patterns (e.g. Iqbal, 2007; Melander & Öberg, 2007). Because of the acute situation and the often-limited resources, nearby destinations are easier to reach and facilitate a possible return home at a later date (Rüegger & Bohnet, 2018). In addition to geographic factors, previous research highlights four other major pull factors that influence flight patterns, namely smugglers and their corresponding escape routes (Rüegger & Bohnet, 2018), political factors of the target country (e.g. peace and democracy; Iqbal, 2007), economic and ecological factors (e.g. the prospect of a higher standard of living, Schaeffer, 2010; Warziniack, 2013), and existing social networks in the target country (Moore & Shellman, 2007).

1.3.3 Post-migration phase

The period immediately following the act of migration is characterized by an initial relief to have arrived at a safe haven. One can often observe high levels of task orientation and functional adaptation in fled people during this phase (Kizilhan, 2018; Sluzki, 1979). Family conflicts and psychological symptoms tend to remain subliminal during this phase. If an entire family has migrated, family rules and styles tend to appear slightly exaggerated (e.g. if family members were mutually close in the country of origin, they tend to be even closer after arriving in the welcoming country). This *period of overcompensation* and high functionality is maintained on average for six months before long-term responses to immigration or flight take place (Sluzki, 2010; Sluzki, 1979). The subsequent *period of decompensation* is often characterized by frustration and disillusionment. Displaced populations are subject to two categories of stressors: those that cause individuals to flee – displacing stressors – and stressors encountered because of the flight – displacement stressors (Rasmussen et al., 2010). The latter are embedded within the post-migration environment and include an uncertain residence status, separation from family, and living in refugee housing facilities (Walther et al., 2020). On the contrary, being employed, contact to members of the host society, and better host country language skills are related to reduced distress and higher levels of life satisfaction (Walther et

al., 2020). Research has consistently shown that stressors encountered after displacement are strong predictors of psychopathology in refugees (Li et al., 2016), accounting for considerable variance in psychological distress, and exceeding the effects of exposure to pre-migration potentially traumatic events on mental health outcomes (Chen et al., 2017; Rasmussen et al., 2010). Furthermore, post-displacement conditions were found to both moderate (Porter & Haslam, 2005) and mediate (Rasmussen et al., 2010; Sachs et al., 2008) the effects of potentially traumatic events on mental health outcomes.

The post-migration phase presents families and individuals with the challenge to maximize both continuity in terms of one's own identity and compatibility with the new environment (Kizilhan, 2018; Sluzki, 1979). This is often accompanied by the experience that coping mechanisms, rules and values that have been tried and tested in the country of origin are no longer adaptive. These challenges are often addressed at a family level by a separation between instrumental and affective roles, with one family member primarily interacting with the new environment and the other family member focusing on strengthening the emotional connection to the past and to life at home (Sluzki, 1979). This distribution of roles can be adaptive but carries the risk that the outward-oriented family member establishes autonomous behaviors and builds a new network of resources and contacts, while the inward-oriented family member remains relatively isolated. If an individual has migrated alone, he or she often embodies both the instrumental and affective role and switches flexibly between the two positions, depending on the respective context and counterpart (Kizilhan, 2018; Sluzki, 1979). While some individuals constructively create a blend of old and new rules and behaviors that constitute their new reality, others idealize or denigrate what has been left behind. The concept of cultural adolescence postulates that the steps towards integration of two or more cultures resemble in many respects the critical mental states and developmental steps of adolescence (Machleidt, 2013; Machleidt & Heinz, 2018). Through the act of migration, the adolescent development dynamic is once again activated at a more mature age and is, like other developmental episodes, associated with both a higher risk for psychological maldevelopment as well as the opportunity for adaptive growth (Machleidt & Heinz, 2018).

The period of decompensation eventually moves on to the final phase of *transgenerational phenomena and integration,* in which a long-term cultural realignment takes place (Knischewitzki et al., 2013; Sluzki, 2010). Berry (1997) developed a conceptual framework describing four coping strategies in dealing with a new socio-cultural environment: *Segregation* describes the maintenance of the original cultural identity while avoiding to participate in the culture of the welcoming country. In contrast, *assimilation* corresponds to the

abandonment of an individual's original values and norms in favor of the culture of the welcoming country. *Integration* describes the efforts to both maintain one's original cultural values while participating in the society of the welcoming country, while *marginalization* corresponds to the denial of both cultures (Berry, 1997; Knischewitzki et al., 2013).

1.4 Psychological pathways underlying experiences of forced migration

The exposure to potentially traumatic events, ongoing threat, and daily stressors in the context of persecution and displacement can have heterogenous consequences on refugees' mental health, ranging from adverse-activated development to an increased risk for mental illness (Chan et al., 2016). In order to better understand the link between experiences of displacement and mental health outcomes, it is noteworthy to explore the psychological mechanisms underlying the processes of forced migration. In the following sections, key research results on processes of emotion regulation, cognitive responses, and memory processes, and their role in the mental health of refugees are presented (Figure 1; Nickerson et al., 2011; Nickerson, 2018).

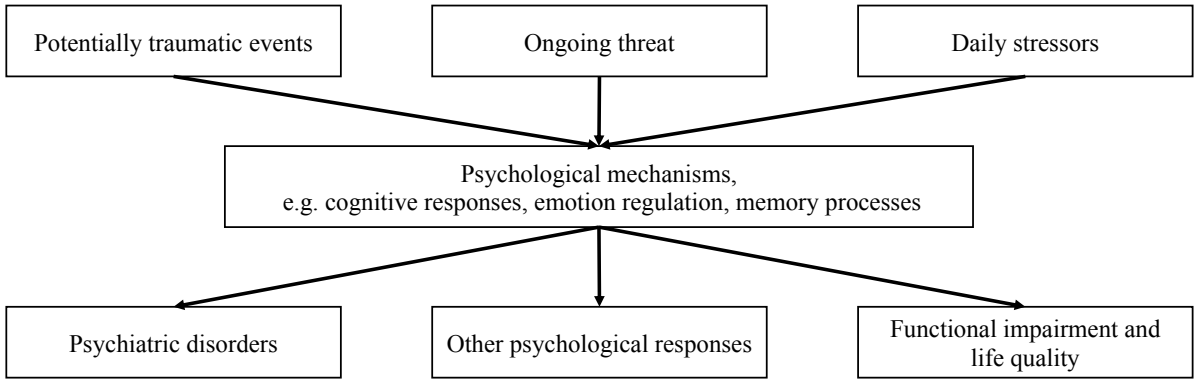
1.4.1 Cognitive responses

Cognitive responses in the context of persecution and displacement influence how traumatic experiences and their psychological reactions are interpreted and shape refugees' broader beliefs about humanity and the world as such (Nickerson, 2018). Several studies have examined the role of cognitive appraisals when refugees experience both traumatic events and psychological symptoms. In a sample of torture survivors from former Yugoslavia, perceived control over torture was linked to lower levels of psychological symptoms, while the physical severity of the torture experiences was unrelated to symptoms of both PTSD and depression (Başoğlu et al., 2007). Research on the interpretation of psychological symptoms and its association with mental health outcomes has shown repeatedly and across cultures, that catastrophic interpretations of somatic pain and nightmares can aggravate symptoms of PTSD and comorbid disorders (Hinton et al., 2011; Hinton & Otto, 2006). Other research on the role of cognitive responses to stressful events has turned to the question how trauma affects refugees' views of societies and the world as such and how this is in turn related to mental health outcomes. In a sample of refugees from Middle Eastern countries resettled in Switzerland, the perception that others had violated fundamental values was related to the severity of depression, PTSD and other anxiety disorders, even after controlling for dosage of trauma exposure and post migration stressors (Nickerson et al., 2015). This finding suggests that exposure to war

trauma and persecution fundamentally challenges core cognitive frameworks of individuals, which subsequently effects mental health outcomes. The associated concept of *moral injury*, a term emerged from work in military settings, could be of interest in this context (Nickerson et al., 2020). Denoting the effects of experienced violation and humiliation on one's own values and morals, the concept of moral injury could potentially influence clinical strategies targeting deep-seated cognitive changes that stem from extreme human-rights violations (Litz et al., 2009; Nickerson et al., 2015).

Figure 1

Psychological mechanisms underlying refugee mental health (Nickerson, 2018)



1.4.2 Emotion regulation

A second body of research examines associations between trauma exposure, emotion regulation strategies, and mental health outcomes in refugee populations. Emotion regulation, i.e. the ability to monitor, evaluate and modify emotional reactions to facilitate adaptive functioning, played a key role in refugees receiving outpatient treatment in Switzerland, with deficits in emotion regulation strategies (e.g. acceptance of emotions) mediating the association between trauma exposure, with both PTSD and depression, as well as the link between post-migration living difficulties and PTSD, depression, and impulsivity (Aldao et al., 2009; Gratz & Roemer, 2004; Nickerson et al., 2015). Another finding has been the association between alexithymia, i.e. the inability to identify, describe, and express emotional responses, with both trauma exposure and PTSD: a study with North Korean refugees resettling in South Korea found a positive association between alexithymia and PTSD severity, with the dose-response relationship between trauma exposure and PTSD symptomatology being particularly

pronounced in individuals with greater difficulties in identifying and expressing their own emotions (Park et al., 2015; see also Söndergaard & Theorell, 2004). In an experimental study with refugees and asylum seekers with PTSD, emotional suppression while viewing trauma-related images was associated with higher levels of distress, with this link being especially strong for those with more severe symptoms of PTSD (Li et al., 2016). Taken together, these results identify emotion regulation as a potential target for mental health interventions in refugees and asylum seekers, as was shown by Hinton and colleagues (2009). In their study on the underlying mechanisms of the effectiveness of cognitive-behavioral interventions for refugees from Cambodia, improvements in the ability to regulate emotions significantly mediated the effect of the intervention on reducing symptoms of PTSD (Hinton et al., 2009).

1.4.3 Memory processes

A third area of research examines associations between memory processes, i.e. integrating and elaborating potentially traumatic or stressful events, and resulting psychological symptoms in refugees. Findings suggest disturbed memory processes to play a key mechanism in the development of intrusive memories after experiencing traumatic events, and have influenced effective treatment approaches, e.g. Narrative Exposure Therapy (Ehlers & Clark, 2000; Robjant & Fazel, 2010). A study on refugees relocated to the UK found associations between deficits in the ability to retrieve autobiographic memories with both PTSD and depression (Graham et al., 2014). Taken together with numerous studies indicating the importance to reproduce traumatic events coherently and credibly for a positive outcome of an asylum hearing, these findings highlight the relevance of therapeutic interventions aiming to correct memory deficits in refugee patients (Herlihy & Turner, 2007b, 2007a; Herlihy et al., 2012). Another important aspect is the role of ongoing subjective threat even after a person had fled and its influence on both memory processes and mental health outcomes. Meta-analytic data suggests much better mental health outcomes in refugees, when the conflict initiating the flight has been resolved (Porter & Haslam, 2005). A possible explanation for this finding was delivered in a study conducted with refugees from Iraq, in which participants experienced intrusions about potential traumatic events their families back in Iraq might face in the future, and reported massive psychological distress from these intrusions (Nickerson et al., 2010). For many refugees, the threat they experience does not stop when their flight ends, but remains a subject of the present and the future, especially if the process of applying for asylum is still ongoing. The perception of ongoing threat in displaced populations should be taken into

consideration when designing clinical interventions, most of which to date focus on processing *past* traumatic events from a *current* position of safety (Nickerson, 2018).

This chapter presented the current state of research on psychological mechanisms in the context of trauma and flight, and its associations with mental health outcomes. The next paragraph delves deeper into the latter and presents relevant and current research findings on prevalence numbers of mental illnesses among refugees and asylum seekers.

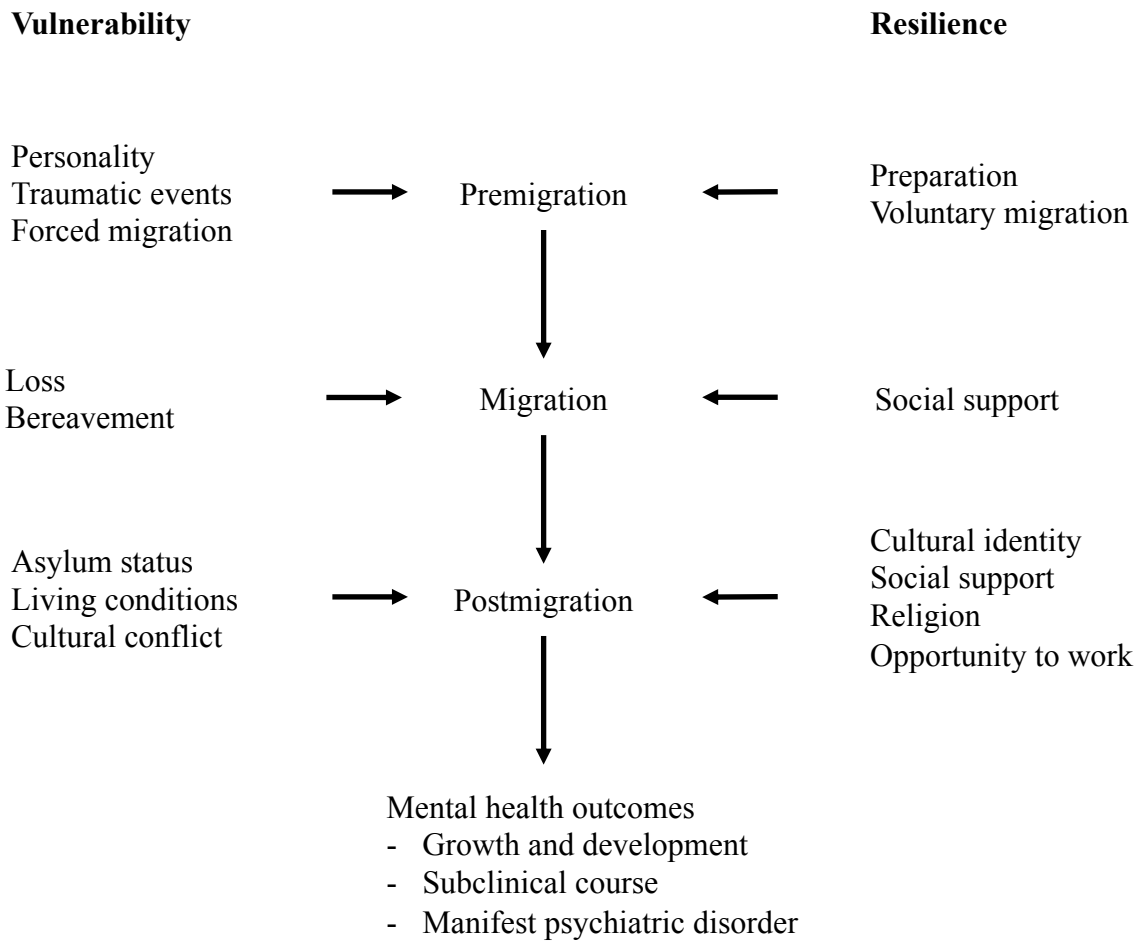
1.5 Mental health in refugee populations

The multifaceted experiences preceding and following processes of forced migration, together with individual, contextual, and personality factors can be understood as both vulnerabilities and protective factors for mental health outcomes in the context of displacement (Figure 2; Bhugra, 2004; Kashyap et al., 2021). Across different refugee populations, studies find lower levels of psychological well-being and higher prevalence rates for psychological disorders compared to both native-born populations and economic migrants (Carta et al., 2005; Fazel et al., 2005; Mewes et al., 2017; Mishori et al., 2017; Neuner et al., 2010). A meta-analysis including 66 studies found prevalence rates of 13% and 42% for diagnosed and self-reported anxiety, 30% and 40% for self-reported and diagnosed depression, and 29% and 37% for diagnosed and self-reported PTSD (Henkelmann et al., 2020). These estimates are substantially higher compared to those reported in non-refugee populations across the globe and to populations living in conflict or war settings (Henkelmann et al., 2020). Another recent meta-analysis with studies from 15 countries found prevalence rates of 31.5% for depression, followed by 31.46% for PTSD, and 11% for anxiety disorders (Blackmore et al., 2020). Post displacement conditions seem to play a moderating role, with refugees living in permanent, private accommodations reporting better mental health than those placed in institutional and temporary facilities (Hajak et al., 2021). Furthermore, a linear relationship between economic opportunities (e.g. the right to work) and mental health outcomes was reported (Porter & Haslam, 2005).

Forced migration is, however, by no means a disease-causing event per se. Priebe and colleagues (2016) found rates of psychotic, affective, and substance use disorders in refugee populations that were comparable to those in the native-born population. Another review on 14 studies in refugees resettled to Western countries showed prevalence rates of 5% for affective disorders, a percentage comparable to rates in several Western populations (Fazel et al., 2005).

Figure 2

The vulnerability stress model in the context of forced displacement (Bhugra, 2004)



Looking at individual disorders, a recent review on the risk of psychosis shows a significantly greater susceptibility to psychotic disorders in refugees compared to both native-born populations and non-refugee migrants (Dapunt et al., 2017). Two other reviews concordantly reported 2% prevalence rates of psychotic disorders among refugees and concluded that these estimates do not exceed the prevalence of psychotic disorders in host populations (Fazel et al., 2005; Giacco & Priebe, 2018). In general, it can be assumed that psychotic disorders are not among the most predominant mental illnesses among refugees.

Two recent systematic reviews on substance use among refugees reported prevalence rates between <1% and 42% for alcohol dependence, and between 1% and 20% for substance dependence (Giacco & Priebe, 2018; Priebe et al., 2016). Risk factors for substance use in refugees and asylum seekers are being single, coming from an alcohol culture (e.g. former

Yugoslavia), a khat culture (e.g. Somalia), or opium culture (e.g. Iran), boredom, unemployment, and traumatic experiences (Lemmens et al., 2017). It is assumed that consumption behavior in refugees adapts to that of the host country over time. Substance use disorders in long-term resettled refugees may therefore be affected by substance use patterns of the host country. For refugees resettled to Germany, prevalence rates of 4.7% for alcohol dependence were found to be significantly higher compared to rates of 0.3% in refugees resettled in Italy and rates of 0.7% in refugees relocated to the UK (Bogic et al., 2012).

Studies on the prevalence of PTSD in refugees consistently point towards elevated prevalence rates compared to native-born counterparts, with reviews estimating rates between 30% and 37% (Blackmore et al., 2020; Henkelmann et al., 2020; Lindert et al., 2009, 2018; Steel et al., 2009). A study conducted with displaced Christians, Muslims, and Yazidi Iraqis found a 100% prevalence of trauma exposure and overall PTSD rates of 48.7%. Rates of PTBS within the Yazidi refugees approached 70%, compared to 44% within the Muslim group, and 32% within the Christian participants. The most frequently experienced traumatic events refugees report are forced separation from family, torture, unnatural death of a family member or friend, rocket attacks, hiding for a long period of time, and lack of food or water (Gerritsen et al., 2006; Ichikawa et al., 2006; Schweitzer et al., 2006)

Looking at other anxiety disorders besides PTSD, a review found an overall prevalence rate of 4% for generalized anxiety disorders in refugees, a number not significantly different to rates in the general population (Fazel et al., 2005). A more recent review indicates that the duration of relocation (short-term vs. long-term) could play a decisive factor in the prevalence of anxiety disorders in refugees. Compared to the general population, estimates for anxiety disorders in refugees were not significantly higher until five years after resettlement, with prevalence rates then ranging from 20.3% to 88% (Giacco & Priebe, 2018). A recent systematic review of long-term resettled Syrian refugees reported a mean prevalence rate of 26% for anxiety disorders (Peconga & Thøgersen, 2020).

The majority of studies on the prevalence of depressive disorders in refugees indicate increased prevalence figures compared to the native-born population. A systematic review including 15 studies found a mean prevalence rate of 35% for depressive disorders in refugees, with single estimations ranging from 11% to 54% (Lindert et al., 2009). Again, the duration of stay in the host country seems to play a role in the prevalence of depressive disorders among refugees, with the consistent finding of increased rates of depression in long-term resettlement. Despite a substantial variation in single prevalence estimations, three out of four studies find prevalence rates of 20% or higher for depressive disorders in long-term resettled refugees

(Bogic et al., 2015). However, even studies in refugee camps have found high estimates of affective disorders. A study among Syrian refugees residing in a refugee camp in Turkey found prevalence rates of 37.4% for depression, with being female, previous mental health problems, having a loved one who was tortured, and not being satisfied in the camp predicting depressive disorders (Acarturk et al., 2018). An even higher number was found for Syrian refugees in a Greek refugee camp, where the rate for depressive disorders was 44%. Being a woman, each additional child, and a longer duration of the asylum procedure in Greece were significant predictors of depression (Poole et al., 2018).

Despite the predominant results of an increased risk of mental illness in refugees, individual studies show a considerable heterogeneity that should not be disregarded (Miller et al., 2005; Steel et al., 2009). This variability may be due to actual differences between groups or methodological factors. Most likely, both factors contribute to this variation (Giacco et al., 2018). Looking at methodological differences across studies, self-reported measurements have a tendency to overestimate symptomatology (Blackmore et al., 2020). Other study characteristics (e.g. sample size and language of interviewer) also seem to account for a significant proportion of variance, with study samples of more than 200 participants and interviewers native to the participant's language leading to more accurate results (Fazel et al., 2005; Steel et al., 2009). Ideally, studies assessing prevalence rates in refugee populations should be based on random samples. However, this method suffers from low response rates and requires an investment of time and resources, which is often unavailable, especially in less well-resourced countries (Giacco et al., 2018). Variability in prevalence rates may also reflect real differences between subpopulations of refugees. Characteristics of the home country, the welcoming culture of the host country, and the risk of deportation are factors that can significantly contribute to the burden on refugees and should therefore be considered in prevalence studies (Blackmore et al., 2020; Hynie, 2018). Finally, almost all studies reporting prevalence rates in refugees are conducted using a cross-sectional design. Yet, longitudinal studies, although for a number of reasons difficult to conduct in refugee samples, are needed to understand long-term disease courses and rates of remission (Giacco et al., 2018).

1.5.1 Prevalence rates of mental illnesses in refugees living in Germany

In line with results from international studies, increased prevalence rates for mental disorders in refugee populations in Germany have been a repeated finding. A recent meta-analysis found pooled prevalence estimates of 29.9% for PTSD symptoms and 39.8% for depressive symptoms in refugees and asylum seekers living in Germany after the year of 2000

(Hoell et al., 2021). In a state-wide, population-based health monitoring survey among refugees and asylum seekers in collective accommodation centers, 46% of the residents reported depressive symptoms, 45% reported symptoms of anxiety, including PTSD (Biddle et al., 2019). Similar rates were found in a study with Arabic, Kurdish, and Afghan refugees and asylum seekers relocated to Germany, with 42% presenting with depressive symptoms and 46% with symptoms of PTSD (Comtesse & Rosner, 2019). In a sample of Syrian refugees in collective accommodation centers in Germany, 80% witnessed one or more traumatic event before or during flight. 35% of the participants met either criteria for PTSD or moderate depressive symptoms, while 23% met criteria for severe depression (Georgiadou et al., 2017). In a study with refugees recently arrived in Germany, 49% screened positive for at least one mental disorder, with 21% meeting criteria for depressive disorders, 31% for somatization disorders and 34% for PTSD, indicating a dramatic mental health burden amongst newly arrived refugees and individuals seeking asylum (Nesterko et al., 2020). Examining a possible change in prevalence of mental disorders across time, rates for depression, PTSD, and other anxiety disorders in a sample of refugees relocated to Germany remained stable for one and a half years, with rates of depression between 26.9% (t_0) and 30.6% (t_1), estimates of PTSD between 13.9% (t_0) and 13.0% (t_1) and rates of other anxiety disorders between 16.7% (t_0) and 15.7% (t_1; Borho et al., 2020).

Looking at sociocultural factors moderating mental health outcomes of refugees in Germany, Euteneuer and Schäfer (2018) highlight the importance of change in social status as a post-migration stress factor by showing that Syrian refugees, who experienced a stronger downward mobility of subjective social status after flight, were more likely to fulfill criteria for major depressive disorder. The impact of a welcoming culture on refugees' mental health was shown in a study investigating how refugees recently relocated to Eastern Germany perceived the welcoming climate. Experiencing discrimination resulted in an increase in reported psychological problems while a welcoming environment positively predicted refugees' desire to establish relationships with native-borns (Haase et al., 2019). In a qualitative study examining environmental and individual factors as predictors of psychological adaptation and mental distress in Syrian refugees in Germany, all participants emphasized a lack of language skills as one of their main challenges, followed by concerns about the safety of family members left behind in the home country (von Haumeder et al., 2019). On the same note, all participants named family as their main motivation to persist when being faced with barriers and as a main source of support in dealing with the consequences of traumatic experiences (von Haumeder et al., 2019). Interviewees who were parents named a better future for their children as the main

motivation to start a new life in Germany, while religion was likewise described as a source for discrimination as well as an important factor in finding meaning of traumatic events experienced (von Haumeder et al., 2019). The deteriorating impact of uncertainties about residence status on psychological distress for asylum seekers has been a repeated finding (Winkler et al., 2018; Steel et al., 2011; von Haumeder et al., 2019). The first study in Germany to investigate the effects of both the asylum procedure and residence status on mental health outcomes showed significant associations between an uncertain residence status and symptom severity of PTSD, anxiety, and somatization. The length of time a person waited for an asylum hearing was significantly associated with depression, as was the belief to not having reported all asylum-relevant details during a hearing (Winkler et al., 2018).

1.6 Cultural competence in psychotherapy

The extent to which refugees and asylum seekers in Germany are entitled to utilize psychosocial services and medical treatment depends on their residence status and duration of stay in Germany. Within the first 18 months after initial registration, medical care for asylum seekers is regulated according to §4 of the Asylum Seekers Benefits Act ("Asylbewerber-leistungsgesetz"). This permits only restricted healthcare utilization, including treating acute illnesses, caring for pregnant women, and administering vaccinations, for which a medical treatment voucher ("Krankenbehandlungsschein") has to be requested in advance. Psychotherapeutic treatments are not explicitly mentioned in §4 and therefore mainly carried out by specialized psychosocial treatment centers for refugees and victims of torture, which are in turn financed through foundations, private donations, or grants. Refugees and asylum seekers, who have been in Germany for more than 18 months, are entitled to receive services from the German statutory health insurance scheme, including psychiatric and psychotherapeutic treatments. But even after transitioning to a statutory health insurance, access to psychiatric and psychotherapeutic therapies for refugees is impeded due to four main barriers (Byrow et al., 2020).

First, mental health treatments offered in Germany are often incongruent with the cultural values of refugees and asylum seekers (Bajbouj, 2016; Griner & Smith, 2006). From a historic perspective, psychotherapeutic services have predominantly focused on the needs of individuals from a middle and upper-middle Western background (Griner & Smith, 2006; Hall, 2001) and pay, to this day, little attention to common values and needs of forcibly displaced persons (Griner & Smith, 2006).

Second, mental illnesses are often more stigmatized in refugees' countries of origin, as they are in Germany. In a community-based survey in the Arabic-culture area, only 38% of randomly-selected participants indicated they would seek help from mental health professionals in the event of psychiatric problems (Chowdhury, 2016). Stigma attached to attending mental health services was reported to be the main reason for refraining from seeking help, followed by expressed doubt about the usefulness of mental health services, especially the use of medication (Chowdhury, 2016). A reluctance to use mental health services was also evident in a survey among non-European immigrants in Canada. Participants named doctor's excessive willingness to prescribe pharmaceutical medications and physician's lack of time as reasons for a low utilization of mental health services (Talbott, 2007).

Third, refugees often have little knowledge of Western-oriented explanatory models of mental illnesses and the resulting treatment options. Instead, they often attribute psychological symptoms to metaphysical powers, physical illnesses, or personal failure. Many patients report a belief in the curative power of nonmedical healing measures, most notably God or traditional folk medicine (Talbott, 2007). It is for example not uncommon for patients to prefer going to a lay therapist ("scheickh"), who is supposed to free the person concerned from evil spirits ("jinn"; Bajbouj, 2016). Even if a need for treatment is identified, refugees often report barriers to accessing information, specifically written material, about health care services (Lindert et al., 2008).

Fourth, communication difficulties between the practitioner and the patient often make it difficult to initially utilize and maintain psychotherapeutic measures. The vast majority of refugees seeking treatment in Germany are not sufficiently proficient in German or English, while the proportion of therapists and doctors who speak the most common languages of refugees are negligibly small (Bajbouj, 2016). Female refugees in particular often have lower language competencies of the respective host country (Shrestha-Ranjit et al., 2020). Concurrently, language was identified as the biggest problem impacting refugee womens' ability to communicate with health professionals and to blend into their host nation's society (Henry et al., 2020).

The barriers mentioned lead to lower rates of mental health care utilization rates among refugees compared to their native-born counterparts (Lamkaddem et al., 2014; Satinsky et al., 2019). While a study assessing mental and physical health care utilization patterns of refugees in Switzerland found high annual healthcare costs and more visits to general practitioners and hospitals compared to the resident population, utilization of psychiatric care services among refugees and asylum seekers was low compared to need, with 41% of refugees reporting

clinically relevant mental disorders, yet, only 26% receiving respective mental health care services (Maier et al., 2010). There is initial evidence that refugees may seek mental health treatments in hospitals more frequently than the native-born population (Satinsky et al., 2019). This could be due to a lack of awareness of mental health care services outside of hospitals or delayed help-seeking, leading to greater severity of symptoms that require immediate hospital care (Gupta, 2013; Satinsky et al., 2019).

In order to promote the use of mental health services among refugees and asylum seekers, structural barriers must be dismantled and culturally sensitive treatment offers must be initiated. The following paragraphs discuss the cultural influence on psychological symptoms and resulting implications for the diagnostic and therapeutic process. Subsequently, dimensions of a culturally sensitive cognitive behavioral therapy are presented and recommendations for the use of interpreters in psychotherapy are given.

1.6.2 Cultural influence on psychological symptoms

Our cultural imprint influences the meaning we ascribe to events and the responses these events elicit (Strauss & Quinn, 1998). The way we express, tolerate, or regulate emotions is therefore closely interwoven with our respective cultural context, as are lay theories and strategies about handling emotions (Drožđek, 2007). In the clinical context, an individual's religious and cultural background plays a vital role in how a person interprets symptoms and reports these to a health care provider (Bhui et al., 2007; Warren, 2013). From an anthropologist perspective, three cultural sectors influence an individual's definition of health and the person's help-seeking behavior (Kleinman, 1980). The *popular sector* contains information provided by friends, family and the community. Common wisdom and knowledge of illnesses is shared, and it is within this sector, that an individual first identifies symptoms and seeks assistance. The *professional sector* comprises Western biomedical knowledge. The third sector is the *folk sector*, consisting of sacred healing methods of the respective cultural group. Based on one or more of these cultural sectors, an individual develops an explanatory model, which then influences the cultural expressions of symptoms, known as *idioms of distress* (Nichter, 1981). In consequence, these idioms of distress often differ significantly between non-Western and Western industrialized cultures, while the latter have predominantly shaped our clinical knowledge about symptom presentation and treatment of mental illnesses.

An example for an explanatory model different from Western models is the attribution of psychological symptoms to metaphysical forces, such as the demon (*jinns*), evil eye *('ayn*), sorcery (*sihr*) or envy (*hasad*) in the Arab culture (Al-adawi et al., 2002; Al-Issa, 2000; Al-

Krenawi & Graham, 2000; Chowdhury, 2016). Consequently, it is also the use of language that influences when symptoms are diagnosed as a disease. The observation of low rates of treatment for depression among people from the Caribbean may, for example, be explained by the fact that several Caribbean languages do not have a term for depression, and that respective symptoms may therefore be missed by standard assessment tools (Bhugra et al., 2014). Other cultures view depression as part of life's ups and downs, which one masters with the support of religious rituals, rather than medical interventions (Bhugra et al., 1999).

Differences in the way symptoms of psychiatric disorders are presented and reported across cultures became evident in a sample of Vietnamese and German patients living in Germany, with similar levels of depression severity. Vietnamese patients reported higher levels of somatic symptoms, whereby poorer German language skills were associated with more somatic symptoms (Dreher et al., 2017). The expression of mental stress in the form of physical complaints is known to be one of the leading reasons for under-recognizing and under-treating mental illnesses among people from different cultural backgrounds, both at the primary and secondary care level (Ferrari et al., 2017; Tarricone et al., 2019).

1.6.3 Dimensions of a culturally sensitive cognitive behavioral therapy

With the steadily growing number of displaced people worldwide and the resulting increased risk for mental disorders, the inclusion of cultural competence into psychotherapeutic services become more and more relevant (Schouler-Ocak et al., 2015). Cultural competence is defined as the ability to recognize and understand the influence of cultural factors on the therapeutic interaction between the clinician and the patient, with the goal that all patients, especially those from minority groups, feel acknowledged and supported (Betancourt et al., 2005; Betancourt et al., 2003; Flores, 2000; Griner & Smith, 2006; Schouler-Ocak et al., 2015; Tarricone et al., 2019).

Basic components of cultural competence are cultural attitude, cultural skills and cultural knowledge (Tarricone et al., 2019). Cultural attitude includes the clinician's ongoing reflection of one's own cultural identity and values, as well as the contemplation of prejudices and biases regarding other cultures (Mahoney et al., 2006; Tarricone et al., 2019). Cultural skills encompass the capability to build a therapeutic relationship with a patient from a different culture, and the ability to align treatment to the cultural characteristics of the patient (Javed & Fountoulakis, 2019). Cultural knowledge refers to the awareness of the impact culture, immigration status and geographical origin may have on psychosocial development, mental illnesses and therapeutic treatment (Tarricone et al., 2019).

Rather than a static phenomenon, cultural competence can be seen as a continuum, including different levels, from cultural blindness to cultural expertise (Schouler-Ocak et al., 2015). Cultural competence is in this regard rather a process of intellectual development than an endpoint and it might be an appropriate approach for healthcare providers to strive for *becoming* rather than *being* culturally competent (Campinha-Bacote, 2002; Tarricone et al., 2019). Cultural skills in the therapeutic setting pay off. Cultural competent therapists receive higher satisfaction ratings by patients, than therapists without these competencies (Wang & Kim, 2010). According to meta-analytic data, mental health care providers report an improvement in communication, empathy and therapeutic alliance after receiving cultural competence trainings (Bhui et al., 2007).

In addition to promoting the cultural competence of practitioners, strategic cultural adaptation of interventions will become increasingly important in the future. Cultural adaptation is defined as "the systematic modification of an evidence-based treatment to account for language, culture and context in a way that is consistent with the client's cultural patterns, meanings and values" (Bernal et al., 2009, p. 362). In the following paragraphs, nine dimensions are presented on which we can culturally adapt cognitive behavioral therapies (CBT), in order to make them accessible, attractive and more effective for people from different cultural backgrounds (Hinton & Patel, 2018).

On the first dimension, the exact cultural background of the patient should be specified. The therapist should aim to assess key demographic variables, including whether the patient is a member of a minority group within his or her country of origin (e.g. Hazaras in Afghanistan) and the patient's level of education and literacy. The latter will determine whether written handouts can be used and how simple or complex therapy content should be conveyed (Morina & Nickerson, 2018). Determining the patient's religious background is important, since it may influence the patient's explanatory model of disease and therapy motivation (Hinton & Patel, 2018). An example are patients with a Buddhist belief, who may see a psychological symptom as the result of past actions (karma), and may therefore seek acceptance of the symptom, rather than psychotherapeutic treatment.

Second, local stressors should be identified early in treatment. In displaced persons, these may include concerns about the asylum procedure, problems regarding the housing situation, or language barriers (Hinton & Hinton, 2014; Hinton & Patel, 2018). Leaving these stressors unaddressed might result in treatment either not being started or being terminated prematurely.

The cultural background influences not only which stressors patients are at risk of being exposed to, but also which symptoms patients consider to be in need of treatment (Hinton et al., 2013). Therefore, the third dimension suggests to identify and address the key local complaints of most concern to those being treated (Hinton & Patel, 2018). For example, across several African cultural contexts, PTSD and arousal symptoms are sometimes attributed to possession, with these complains being experience-near categories, meaning they are highly relevant to self-perceived well-being (Hinton & Patel, 2018). Framing treatment in such a way that it addresses these local complaints promotes a positive outcome expectancy and greatly increases therapy acceptability and adherence (Benish & Wampold, 2011).

Fourth, in addition to assessing psychiatric symptoms according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013), key dimensions of psychopathology (e.g. somatic symptoms or catastrophic cognitions) should also be assessed. While each patient group may have a unique profile of DSM-5 disorders (e.g. evelated rates of PTSD in refugee populations; Hinton & Lewis-Fernández, 2011; Hinton & Patel, 2018), each categorial diagnosis should be complemented by assessing psychological complaints on key dimensions, which may result in more tailored and cultural adapted interventions (Hinton & Patel, 2018).

Fifth, Hinton and Patel (2018) propose to create both universal and local models of presented key complaints, in order to identify treatment targets and modes of intervention (see also, Morina & Nickerson, 2018). Universal models are generally applicable explanations for symptoms, such as the connection between a trigger, catastrophic cognitions and the resulting distress in PTSD. Complementary, local models explain how key symptoms are generated according to local ethnopsychology (Morina & Nickerson, 2018). For example, the symptom of "thinking too much" is often mentioned across different cultural contexts, but is understood and interpreted differently depending on the culture (Hinton et al., 2016). While the Western-oriented model of rumination might show the connection between thoughts and subsequent feelings, and behaviors, in order to derive from there the intervention of cognitive restructuring, the Cambodian model of “thinking too much” suggests treating rumination with obeisance to the Buddha, snapping of joints, sleep, and appetite stimulants (Hinton & Patel, 2018).

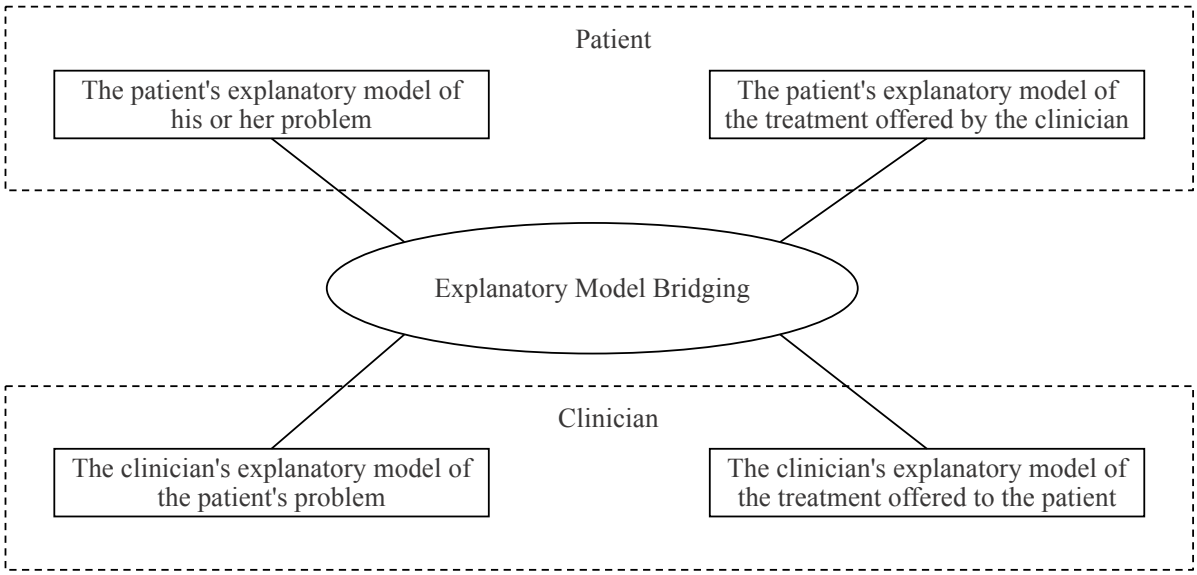
On the sixth dimension, religious or spiritual acts, idioms or gestures should be included to create a bridge between the clinician’s and client’s views of the disorder and promote the motivation, compliance, and outcome expectancy of the patient (Morina & Nickerson, 2018). Mindfulness practices in Buddhist patients are examples of actions that may be implemented in the context of culturally sensitive therapies (Agger et al., 2012; Haque, 2004). With some

patients, it may be useful to end a treatment with local rituals that indicate purification or healing in a general sense (Morina & Nickerson, 2018). This may help to positively change the patient's self-image, a key-issue in the work with traumatized patients (Agger et al., 2012).

The seventh dimension suggests to acknowledge that not every patient understands the emergence and treatment of mental illness through a biomedical perspective (Mahoney et al., 2006). Understanding the clients interpretation of symptoms and providing treatment congruent with their explanatory model is therefore a key component of culturally sensitive psychotherapy (Hinton & Patel, 2018). This may entail adjusting the patient's initial explanatory model of the disorder to further treatment, yet including his or her cultural views (Morina & Nickerson, 2018). Patients' ideas about the disease must be combined with clinical explanatory models, a process referred to as *explanatory model bridging* (Figure 3; Hinton & Patel, 2018).

Figure 3

Application of explanatory model bridging in the clinical context in order to provide the patient with a coherent and acceptable disease model using four different explanatory models (Hinton & Patel, 2018)



For a patient with an Islamic background, an obsession with a "jinn", an invisible, demon-like being, may serve as an explanation for recurring panic attacks, while a Western patient may attribute the panic purely biologically. In both cases, the respective explanatory

models should be heard in an ethnologically sensitive manner and psychotherapeutic interventions should be introduced as an additional help. The importance of developing an explanatory model in accordance with the patients cultural beliefs was illustrated in a meta-analysis, in which culturally adapted treatments showed a greater effectiveness, compared to non-adapted interventions, with a modification of the explanatory model being the only significant moderator accounting for the difference (Benish & Wampold, 2011).

Eighth, cognitive behavioral interventions should be named and introduced in such a way that they are tolerated and accepted by the respective patient group. Presenting techniques in the context of metaphors may, for example, increase their credibility and acceptability (Hinton et al., 2012). One research group compared the fear of exposure to the fear local women initially have of making bread on an open fire, as it is a fear that typically diminishes over time (Murray et al., 2014).

Ninth, psychological disorders and symptoms need to be de-stigmatized, while access to mental health care services provided needs to be maximized. This may include educating family members about the illness or cooperating with community leaders, making them advocates of psychotherapeutic and medical treatments. If patients have concerns about entering psychiatric practices or clinics, it may be helpful to carry out the treatment in a primary care setting or in a non-clinical context. Structural barriers, which are discussed in more detail in the following chapter, must be dismantled. This may include covering transport costs to the place of treatment, providing therapy services for patients without health insurance, and, in the case of female patients, ensuring childcare during treatment (Hinton & Patel, 2018).

When comparing culturally adapted mental health interventions to non-adapted treatments, meta-analytic data shows a superiority of culturally adapted therapies, with an effect size of $d = 0.45$. In particular, conducting therapy in the patient's native language seemed to contribute significantly to the greater effectiveness of culturally sensitive treatments (Griner & Smith, 2006). Implementing psychotherapy through the use of interpreters is therefore a topic of increasing practical relevance.

1.6.4 Psychotherapy using interpreters

Language is an essential tool for psychotherapeutic work. Effective communication between the therapist and patient is crucial for all areas of therapy, from establishing a therapeutic relationship to assessing symptoms, to implementing interventions (Kluge, 2011; Mahoney et al., 2006). Language as a central component of psychotherapy is reaching its limits in view of the increasing cultural and linguistic heterogeneity of patients. A survey among

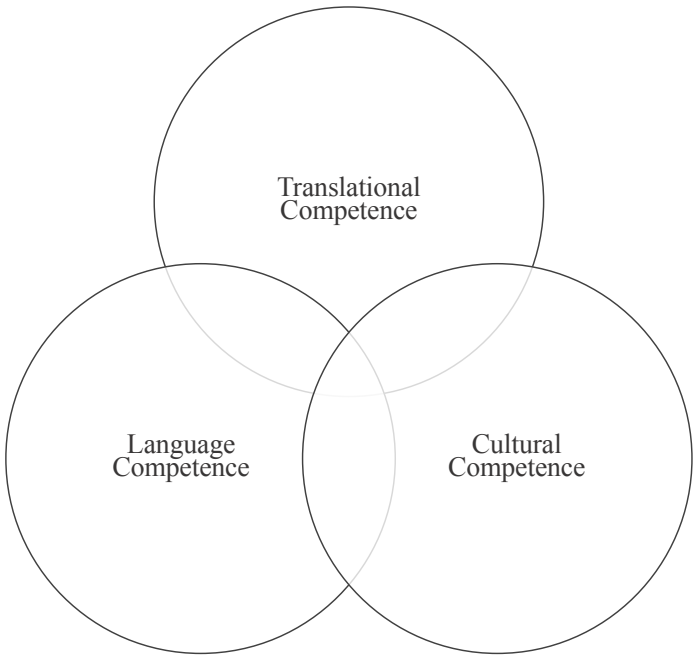
psychotherapists in German clinics found that 10% of treatments failed due to communication difficulties (Wolf & Özkan, 2012). In another survey among German mental health care providers, 77% stated that they encountered language barriers when treating people with a migration background (Machleidt et al., 2010). Data indicates that migrants who are older, poorer, and female tend to have more language barriers, than those who are younger, wealthier, and male (Lindert et al., 2008). Language barriers may lead to incomplete or distorted mental status assessment, by potentially masking disorders of speech and language (e.g. neologism), thought process (e.g. disorganization), thought content (e.g. delusions), or perceptions (e.g. hallucinations; Bauer & Alegria, 2010). Communication problems can make it more difficult to identify treatment targets and to generate a common explanatory model, which can in turn be reasons for non-engagement in therapy, higher levels of dissatisfaction with mental health services, and drop-out of therapy (Kluge, 2014; Schouler-Ocak et al., 2015). According to meta-analytic data, therapies in which patient's and therapist's language are matched are twice as effective, a finding that strongly supports the need for therapies to be conducted in the patient's native or preferred language (Griner & Smith, 2006). However, native language psychotherapy cannot be realized everywhere, as the number of patients' mother tongues exceeds the number of qualified psychotherapists who speak the respective languages (Schouler-Ocak et al., 2015). Current guidelines therefore advocate to incorporate psychologically trained interpreters in the treatment process when needed (Schouler-Ocak et al., 2015). In the sense of an empowerment principle, working with language mediators can strengthen patients' self-confidence and enable them to be actively involved in the therapeutic process (Morina et al., 2010). Initially, the use of interpreters is associated with higher treatment costs. At the same time, however, language mediators facilitate the diagnostic process and enable the targeted use of psychotherapeutic interventions. A better communication can therefore lead to more effective treatment processes, which can prevent high long-term costs due to additional hospital stays or misdiagnosis (Kluge & Kassim, 2006).

Not everyone who speaks two languages is a suitable interpreter for psychotherapeutic settings. Contrary to current practice, the scientific view states that no lay interpreters, so-called ad hoc interpreters (e.g. family members), should be used in psychotherapy, as role confusion and loss of transfer can occur (Bauer & Alegria, 2010; Kluge, 2014). Children in particular, who often speak the language of the host country sufficiently well, are often used as lay interpreters in their parents' psychotherapy. The content of the conversation is often beyond their understanding and it is not reasonable for them to interpret neutral and distant. Likewise, it is usually impossible for parents to freely articulate their own feelings or fears in the presence

of their children. In the literature, the use of professionally trained interpreters is unanimously recommended for the medical context (Kluge, 2014; Morina et al., 2010). Professional interpreters should acquire three key competencies, namely language competence, cultural competence and translational competence (Figure 4; Kletečka-Pulker et al., 2019). Language competency refers to mastering the two respective languages, while cultural competency entails a comprehensive understanding of the respective cultures and specific cultural behavior patterns (Kletečka-Pulker et al., 2019). In this sense, the frequently used term interpreter is increasingly being replaced by the term language and cultural mediator, meaning that interpreters can bring their cultural knowledge into a transcultural setting and thus identify and resolve any cultural differences and misunderstandings (Kluge & Kassim, 2006). Translational competence consists of both interpretation competence, meaning the ability to convert communication content, and interpreter competence, defined as the ability to behave in a professional manner in an interpreting situation (Kletečka-Pulker et al., 2019).

Figure 4

Model of professional interpreters' competencies (Kletečka-Pulker et al., 2019)



Interpreters impartiality, neutrality, and confidentiality are the fundamental principles of the interpreting profession (Kletečka-Pulker et al., 2019). The latter is particularly important when working with vulnerable clients, such as refugees and asylum seekers, as experiences of betrayal and persecution may often lead to mistrust in interpreters. The fit between the patient's and the interpreter's sociocultural background should be considered when selecting the interpreter and any concerns of the patient regarding working with an interpreter should be addressed before therapy is started. In individual therapy, the therapist, patient, and interpreter often sit in the form of an isosceles triangle. Arrangements in which the therapist and patient sit opposite each other, with the interpreter being seated behind the patient, are also possible (Kluge, 2011). In group therapy sessions, therapist and interpreter sit side by side (Abdallah-Steinkopff, 1999). Consecutive interpreting is the most practiced transmission technique within psychotherapeutic settings. After a few spoken sentences, each paragraph is translated into the other language. Simultaneous interpreting can, however, be the method of choice in individual situations, for example, if a certain pathology needs to be assessed (e.g. increased urge to speak in a mania) or if certain interventions would be interrupted by consecutive interpreting (e.g. exposure exercises; Morina et al., 2010). The interpreter generally translates in direct speech and thus promotes a closer relationship between therapist and patient (Bot & Wadensjö, 2004). Particularly stressful narrative content (e.g. reports about experiences of torture) can be an exception. A change to indirect speech can be indicated here, in order to disburden the interpreter (Morina et al., 2010).

Therapist and interpreter should have the opportunity for a short follow-up discussion following each therapy session, in which culture-specific aspects of the conversation can be marked and the interpreter has the opportunity to address stressful aspects of the transmission (Morina et al., 2010). In a qualitative study with psychotherapists and interpreters about the necessary external framework conditions for a successful therapy, the interviewees emphasized the importance of a clear division of roles, regular preliminary and follow-up discussions, the fit of the patient and interpreter with regards to the cultural backgrounds, and a complete and accurate translation in first-person form (Hanft-Robert et al., 2018).

1.7 Contextual embedding of the dissertation thesis

The presented high prevalence numbers for mental illnesses among refugees, together with barriers in accessing, utilizing and implementing mental health care services, point towards a need for resource-efficient and accessible interventions for refugees and asylum seekers living in Germany. The project *"Mental Health in Refugees and Asylum Seekers"*

(MEHIRA) took on this task, aiming to conceptualize a stepped and collaborative care model (SCCM) for adolescent and adult refugees and asylum seekers with depressive symptoms and to examine its efficacy in comparison to routine care practices (treatment-as-usual [TAU]) within the German health care system (Böge et al., 2020). Stepped care is a model of health care delivery with two fundamental features (Bower & Gilbody, 2005). First, a recommended treatment within the SCCM should be the least restrictive of those available, yet providing significant health gain for the patient (Bower & Gilbody, 2005). Least restrictive refers to the impact on the patient in terms of cost and personal inconvenience, and to the amount of specialist therapy time required (Bower & Gilbody, 2005; Sobell & Sobell, 2000). In stepped care, more intensive treatments are reserved for patients who do not benefit from simpler first-line treatments or who already enter the care structure with a greater symptom burden (Bower & Gilbody, 2005). Stepped care models therefore have the potential to provide resource-oriented treatments for large numbers of patients, which can be particularly useful in view of the high need for care in refugees. The second fundamental feature of stepped care models is their self-correcting mechanism. Self-correcting means, that the results of treatments and decisions about treatment provision are monitored systematically and changes are made ("stepping up"), if current treatments are not achieving significant health gain in the patient (Bower & Gilbody, 2005).

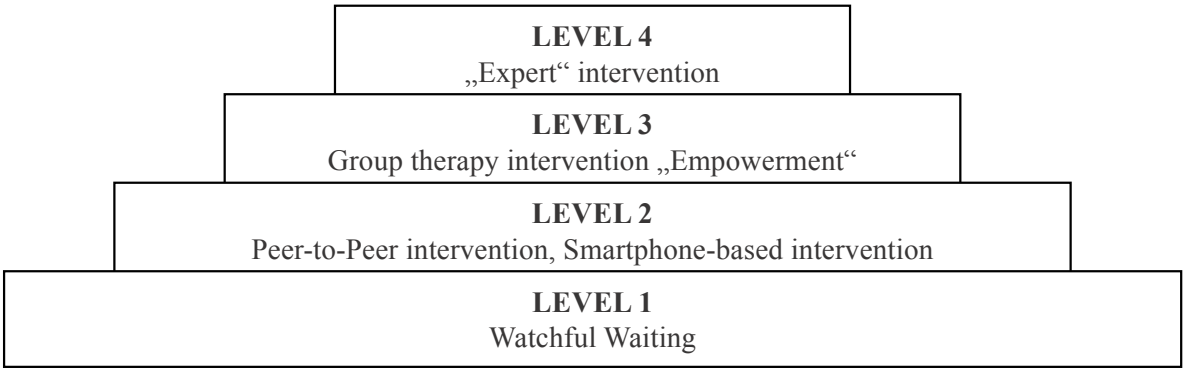
Stepped care approaches have been implemented for circumscribed disorders in non-refugee populations, with current research showing the potential of stepped care models to improve the efficiency of psychological therapy provision (Bower & Gilbody, 2005; Härter et al., 2015). Within the context of displacement, the Inter Agency Standing Committee, a United Nations organization for the coordination of humanitarian aid, suggests stepped care approaches as one of six guiding principles for the implementation of psychosocial aid for refugees and asylum seekers (Bajbouj et al., 2018).

Within MEHIRA, such a stepped approach was implemented for the first time in the psychosocial care of refugees and asylum seekers with depression. The stepped care model applied comprised four levels (Figure 5). Patients with subclinical pronounced depressive symptoms were assigned to level one, a "watchful waiting" condition. Patients with mild depressive symptoms were allocated to the second level, receiving either an internet-based intervention or a peer-to-peer group intervention. Level three was the first step to require a mental health care professional by offering the newly-developed group therapy intervention *Empowerment* for patients with moderate depressive symptoms. Group therapy represents an effective opportunity to provide psychotherapeutic care to a number of patients while saving

both direct and indirect costs in comparison to individual therapy, making it particularly suitable for use in stepped care approaches (Lambert & Alhassoon, 2015; McDermut, Miller & Brown, 2001). Patients with severe depressive symptoms were treated on level four in a single setting by a psychologist or psychiatrists, with the frequency of the sessions being derived individually from the need for treatment (Böge et al., 2020). Within MEHIRA, the SCCM was compared to routine care practices within the German mental healthcare system and resulted in a significant reduction of depressive symptoms compared to routine care (Böge et al., 2021).

Figure 5

Stepped and Collaborative Care Model within the project "Mental Health in Refugees and Asylum Seekers" (MEHIRA)



1.8 Development of the Empowerment group therapy manual

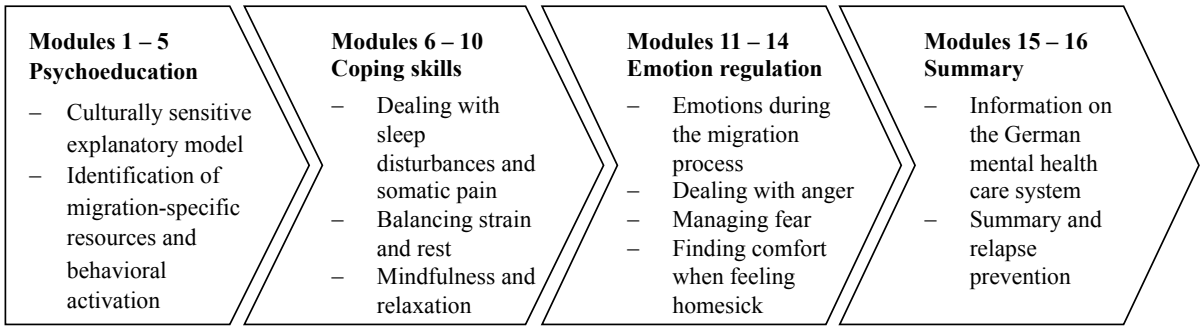
During the development of the stepped care model within the framework of MEHIRA, the need for a culturally sensitive group therapy for treating refugees and asylum seekers with moderate depressive symptoms on level three of the SCCM, became apparent. While promising group therapy approaches for the treatment of refugees and asylum seekers have been conceptualized in recent years, there is currently no manual that is specifically tailored to the treatment of depressive disorders in refugee populations. Existing manuals predominantly address different consequences of displacement-related trauma by focusing on psychoeducation (Liedl et al., 2018), stabilization techniques (Özkan & Belz, 2019; Zehetmair et al., 2018, 2019), trauma narrative and cognitive restructuring (Drožđek & Bolwerk, 2010; Pfeiffer et al., 2018, 2019; Pfeiffer & Goldbeck, 2017) or transdiagnostic processes such as impulsivity (Koch et al.,

2017; Koch et al., 2020). Other existing treatment manuals aim at the culturally sensitive treatment of migrants, with some of these interventions specifically targeting the treatment of depressive disorders, yet leaving out stressors specific to displacement and flight (Assion et al., 2017; Fathi et al., 2015, 2016). All of these manuals make significant contributions to improving the mental health care of refugees and migrants and illustrate how interventions, which were mostly conceptualized for patients socialized in Western societies, can be successfully adapted to other cultures.

We supplemented these existing treatment concepts by developing a new group intervention within the framework of MEHIRA, aiming to empower refugees and asylum seekers with the knowledge and resources to cope with depressive symptoms and migration-related stressors (Wiechers et al., 2019). Starting points for the development of the *Empowerment* manual were the evidence-based manuals "Cognitive-psychoeducative therapy for coping with depression" (Schaub et al., 2013) and the dialectic-behavioral therapy program by Bohus and Wolf-Arehult (2013). We used established and validated interventions and therapy techniques as included in these manuals (e.g behavioral activation) and adapted them to the context of displacement and flight. This adaptation took place in close cooperation with language and cultural mediators who offered in-depth knowledge of the respective cultures and had many years of experience in interpreting in psychotherapeutic settings. The development of the manual was supervised by senior psychiatrists and psychotherapists with many years of experience in working with refugees and migrants.

Figure 6

Content overview of the Empowerment intervention



The therapy manual was written in German, designed to be carried out by German speaking therapists with the help of interpreters. All written therapy content was translated into Arabic and Dari/Farsi by official translators and proof-read after the translation. The manual comprises 16 sessions, with each one beginning with a welcome round and mindfulness exercise, followed by a short repetition of the previous session. The respective focus topic is then presented and worked on interactively. Each session ends with a final round. Sessions 1 to 5 focus on psychoeducation and behavioral activation. Symptoms of depression are compiled and classified within both the cultural framework of the participants and the German culture. Together with the group participants, a culturally sensitive explanatory model for depression is developed, which takes pre- and post-migration stressors into account. Culturally related, different explanatory models of the disease are discussed. Sessions 6 to 10 impart coping skills in dealing with acute stress, disturbed sleep, and somatic pain. Sessions 11 to 14 focus on emotion regulation strategies. Feelings present during the flight and after arrival in Germany, e.g. anger, fear, and homesickness, are discussed and functional strategies for dealing with these emotions are developed. In the final sessions 15 and 16, the content of the previous sessions is repeated and information about further treatment options within the German mental health care system are given.

1.9 Aim of the dissertation project and hypotheses

Dynamic refugee movements worldwide and the resulting increased likelihood to develop psychiatric illnesses pose a substantial pressure on mental health services in host countries (Jefee-Bahloul et al., 2016). In order to relieve the burden on health care systems and to guarantee urgently needed care, effective treatment offers, that are applicable to patients from different cultural origins, are needed. The objective of the present dissertation project is therefore to examine the efficacy of the culturally sensitive Empowerment group intervention for refugees and asylum seekers with depressive symptoms. The following hypotheses are assumed:

Hypothesis 1: The Empowerment group intervention is more effective in the treatment of depressive symptoms compared to TAU, which is defined by a significant reduction in the sum score on the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001) from baseline to post-intervention visit at week 12 for the treatment group, in comparison to TAU (primary outcome).

Hypothesis 2: The Empowerment group intervention is furthermore effective in improving

distressing physical and emotional symptoms in refugees and asylum seekers, which is reflected by a significant reduction in clinician-rated depressive symptoms assessed by the Montgomery Åsberg Depression Rating Scale (MÅDRS; Montgomery & Åsberg, 1979), emotional distress measured by the Refugee Health Screener-15 (RHS-15; Hollifield et al., 2013), resilience assessed by the Brief Resilience Scale (BRS; Smith et al., 2008), self-efficacy measured by the General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 2010), behavioral problems assessed by the Strengths and Difficulties Questionnaire (SDQ; Muris et al., 2003) and life quality assessed by the World Health Organization Quality of Life questionnaire, brief version (WHOQoL-BREF; WHOQoL Group, 1998a) for the treatment group in comparison to TAU.

2. Methods

2.1 Research Design

The dissertation project was embedded into the above presented multicenter, randomized, controlled MEHIRA trial, conceptualizing and evaluating a stepped and collaborative care model for providing mental health treatments for refugees and asylum seekers with affective disorders. Six university sites were involved in the project, of which the Empowerment intervention was offered at four university hospitals in Aachen, Berlin, and Munich. Patients with moderate depressive symptoms were randomly assigned to the treatment condition (Empowerment) or TAU. An in-depth elaboration of the development and methodological procedures of the MEHIRA trial is illustrated elsewhere (Böge et al., 2020).

The study was conducted in accordance with the latest version of the Declaration of Helsinki. All participating study sites collaborated in the development of the study protocol, which was approved by the ethical committees of all sites. Approval of the ethics committee of the Ludwig-Maximilians-University of Munich is presented in Appendix A. The MEHIRA project was funded by the Innovationsfond and German Ministry of Health [grant number 01VSF16061]. The trial was registered in Clinical-Trials.gov (registration number: NCT03109028; registration date 11.04.2017) prior to the start of the study.

2.2 Participants

Inclusion criteria for participants in the present study were a) legal status of a refugee or asylum seeker as defined by the UNHCR (UNHCR, 2021b), b) age between 18 and 65 years, c) Arabic or Dari/Farsi native speaking and/or fluent in the German or English language, and d) moderate depressive symptoms at the time of screening, indicated by a sum score between 15 and 19 on the PHQ-9 (Kroenke et al., 2001). Exclusion criteria were a) current or past diagnosis of a psychotic or degenerative disorder, b) absent informed consent, and c) current risk of suicidality measured with a score of ≥ 4 on item 10 of the MÅDRS (Montgomery & Åsberg, 1979).

2.3 Procedure

Potential participants were identified through close cooperation with central clearing clinics, refugee facilities, general practitioners and residential care settings. Potential study participants were allocated to the study site and screened for clinically relevant depressive symptoms using the RHS-15 (Hollifield et al., 2013) and the PHQ-9 (Kroenke et al., 2001).

Screening was carried out sequentially, meaning that only a positive screen on the RHS-15 entailed application of the PHQ-9. A sum score ≥ 12 for the items 1 to 14 or a score ≥ 5 for item 15 on the RHS-15 as well as a score of *several days* or higher on at least five questions in the PHQ-9 indicated positive screening. Participants were given detailed information on the course, purpose and risks of the study both verbally and in written form. The study information and informed consent were provided in German, Arabic, and Dari/Farsi. If a participant was illiterate, study material was translated with the help of an interpreter. After consent to partake in the study, symptomatology at baseline was assessed using the PHQ-9 (Kroenke et al., 2001), RHS-15 (Hollifield et al., 2013) and the MÅDRS (Montgomery & Åsberg, 1979). Further outcome scales included at baseline were the BRS (Smith et al., 2008), the GSE (Schwarzer & Jerusalem, 2010), the SDQ (Muris et al., 2003), and the WHOQoL-BREF (WHOQoL Group, 1998a). Baseline assessment also included assessing demographic data and conducting the Mini International Neuropsychiatric Interview to assess any possible comorbid disorders (MINI; Sheehan et al., 1998). Traumatic events and posttraumatic symptoms were assessed with the Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992). After baseline assessment, participants were randomly assigned to the Empowerment intervention or TAU in a 1:1 scheme with fixed block size (Böge et al., 2020). Randomization was carried out using a computer-generated electronic case report form (eCRF), generated by the Clinical Study Center Berlin of Charité – Universitätsmedizin Berlin (Koordinierungszentrum für klinische Studien), an independent coordination center for clinical trials. All outcome scales were assessed at baseline (t_0), at time of post-intervention after 12 weeks (t_1), at 24-week follow-up (t_2), and at 48-week follow-up (t_3), except for the SDQ, which was only assessed until 24-week follow-up. Table 1 provides an overview of the appointed scales throughout the course of the study.

2.3.1 Data and safety management

Data was collected by the study staff in paper format and then immediately transferred to the eCRF, that was operated with the study software SecuTrial® (interactive systems, Berlin), to ensure safe handling and storage of data conducted. All study employees were trained in the use of the eCRF prior to the start of data collection. Secure access to the electronic file was guaranteed by using individualized user names and access codes. Patient data entered into the eCRF was pseudonymized using codes generated by the SecuTrial® software. The data entered was then transferred to the KKS in Berlin, where it was managed centrally for all study sites.

Table 1

Appointed questionnaires throughout the course of the study

Time point		t_0	t_1	t_3	t_4
Week	-4 to 0	0	12	24	48
PHQ-9	x	x	x	x	x
RHS-15	x	x	x	x	x
Demographic Data		x			
MÅDRS		x	x	x	x
MINI		x			
HTQ		x			
BRS		x	x	x	x
GSE		x	x	x	x
SDQ		x	x	x	
WHOQoL-BREF		x	x	x	x

Note. PHQ-9 = Patient Health Questionnaire-9; RHS-15 = Refugee Health Screener-15; MÅDRS = Montgomery Åsberg Depression Rating Scale; MINI = Mini International Neuropsychiatric Interview; HTQ = Harvard Trauma Questionnaire; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

2.3.2 Blinding

All measurements were conducted by independent raters who were blind to participants' group condition in order to rule out intentional, as well as unintentional, rating bias. The blinding of the raters was ensured by handing the completed scales over to a colleague at the end of an appointment, who then carried out the randomization through the eCRF and communicated the result to the participant. Raters had no access to the eCRF and remained blind to participants' group condition for the entire course of the study.

2.3.3 Sample size calculation

Sample size calculation for the overall MEHIRA sample was calculated based on an expected baseline PHQ-9 score of 15, an expected difference of 2.5 points after twelve months (SD = 5), a significance level of 0.05, a power of 0.8, and an effect size of f = 0.1. Calculation with a 2 (intervention vs. control group) x 4 (times of measurement) matrix resulted in a sample size of 138 participants per group. Considering an intra-cluster correlation of 0.03 and 6 facilities per study site, a design effect of 1 + (n-1) * ICC = 1.72 was estimated. The initial

sample size of 138 was therefore adjusted to 1.72 * 138 = 238 per group, leading to a total sample size of N = 476 participants. Taking an estimated dropout rate of 50% into account, recruitment of 952 participants was intended.

2.4 Intervention

The Empowerment intervention comprised 16 sessions conducted over a period of 12 weeks. Therapy was carried out twice a week in the first four weeks and once a week in the following eight weeks. The session length was 90 minutes. Chapter 1.8 describes the content of the Empowerment manual in detail. Within the MEHIRA trial, the Empowerment intervention was implemented by Dari/Farsi or German speaking therapists. In the latter case, the therapy was conducted with the assistance of interpreters. All written therapy content was provided in Arabic, Dari/Farsi and German. Groups were held with all female, all male, or mixed participants. The groups also differed in terms of the socio-cultural heterogeneity of the participants, with some groups exhibiting greater heterogeneity (e.g. participants from different countries) than others. All therapists were psychologists with at least a master's level or doctoral degree, and with advanced or completed postgraduate clinical training. A total of five therapists from four study sites delivered psychotherapy. Before starting treatment, psychologists attended a one-day training in the group therapy manual and in working with interpreters to ensure that therapy was conducted according to protocol. Adherence to the treatment protocol was regularly monitored through supervision sessions in-person and via phone.

2.4.1 Control group

For participants in the control condition, no specifications were made regarding their future treatment path. As a result, whether control subjects received treatment both inside or outside the study site for the duration of the trial varied between study centers. In Munich, control subjects were enrolled in the psychiatric outpatient clinic after randomization and received appointments as needed throughout the course of the study.

2.5 Outcomes

The following paragraphs present the scales used in the present study. All self-report instruments were provided in Arabic, Dari/Farsi, or English. The scales had either already been validated in the respective languages prior to the start of the trial or were translated by native speakers within the scope of the study. The English versions of all primary and secondary outcomes are presented in Appendix B.

2.5.1 Patient Health Questionnaire-9

The PHQ-9 assesses depressive symptoms based upon the criteria for a depressive episode of the DSM-5 (American Psychiatric Association, 2013; Kroenke et al., 2001). The items assess (1) anhedonia, (2) depressed mood, (3) difficulties sleeping or sleeping too much, (4) feeling tired, (5) change in appetite, (6) feeling guilty or worthless, (7) difficulties to concentrate, (8) feeling restless or slowed down, and (9) suicidal thoughts (Kroenke et al., 2001). Responses for each item range from 0 (*not at all*) to 3 (*nearly every day*). A sum score ranging from 0 to 27 is formed for the nine items. One final item records the degree of stress to which these symptoms lead to in the person concerned.

The English version of the PHQ-9 shows an internal consistency of Cronbach's $\alpha = .86$-$.89$ and test-retest reliability of .84 (Kroenke et al., 2001). Meta-analyses calculated a sensitivity of .80 and specificity of .92 (Gilbody et al., 2007). The PHQ-9 has been shown to be diagnostically valid in different populations and cultural settings (Crane et al., 2010; Dreher et al., 2017; Familiar et al., 2015; Grupp et al., 2020; Martin et al., 2006; Monahan et al., 2009) and has been recommended by the DSM-5 to be used as a general measure of depression severity (American Psychiatric Association, 2013).

2.5.2 Montgomery Åsberg Depression Rating Scale

The MÅDRS is one of the most widely used interviews in clinical research to assess depression severity after a categorial diagnosis has been ascertained (Montgomery & Åsberg, 1979). The scale's 10 items are (1) apparent sadness, (2) reported sadness, (3) inner tension, (4) reduced sleep, (5) reduced appetite, (6) concentration difficulties, (7) lassitude, (8) inability to feel, (9) pessimistic thoughts, and (10) suicidality (Montgomery & Åsberg, 1979). Items are rated on a scale from 0 to 6, with each item including exemplary symptom descriptions. Sum scores range from 0 to 60. Montgomery and Åsberg (1979) reported an inter-rater reliability ranging from .89 to .97. Reliability between raters on single items ranges between .57 and .76 (Davidson et al., 1986). The MÅDRS shows an acceptable validity across different cultures and languages (Hallit et al., 2019; Montgomery & Åsberg, 1979; Ozer et al., 2001).

2.5.3 Refugee Health Screener-15

The RHS-15 measures emotional distress in displaced persons and is commonly used as a screening instrument for anxiety, depressive, and trauma-related disorders in refugee populations (Hollifield et al., 2013). Applicable as an interview or a self-rating, 14 items assess

symptoms on a scale from 0 (*not at all*) to 4 (*extremely*). Item 15 measures the overall distress participants experienced within the last week on a scale from 0 (*no distress*) to 10 (*extreme distress*). A sum score of 12 or higher on items 1-14 or a distress thermometer score of 5 or higher indicate a positive screening on the RHS-15 (Hollifield & Farmer, 2016). An internal consistency for items 1-15 of Cronbach's α = .92 has been reported (Hollifield et al., 2013). Sensitivity/specificity of .81/.87 was found for PTSD, .94/.86 for anxiety, and .95/.89 for depression. In an evaluation in Germany, the RHS-15 has shown good feasibility, reliability, and validity in detecting common mental health problems in refugee populations (Kaltenbach et al., 2017).

2.5.4 Brief Resilience Scale

The BRS is a six-item, single-factor instrument assessing the ability to bounce back or recover from stressful circumstances (Smith et al., 2008). The scale is composed of three positively worded items and three negatively worded items to minimize response bias (Smith et al., 2008). The six items are rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). First, a total value is formed that ranges from 6-30. Sum scores are then divided by the number of statements answered to determine the mean score, with higher scores indicating higher resilience. In the original study, the BRS explained 55-67% of variance across four samples and presented a satisfactory internal consistency reliability (α = .80-.91; Smith et al., 2008). In a review on resilience measurement scales, the BRS was among the scales with the most satisfactory psychometric properties (Windle et al., 2011) and has been evaluated as one of the most frequently used resilience scales (Salisu & Hashim, 2017). Consequently, the BRS has been validated across different languages and cultures, where it showed adequate psychometric properties in terms of reliability, validity and sensitivity of its scores (Amat et al., 2014; Chmitorz et al., 2018; Lai & Yue, 2014; Rodríguez-Rey et al., 2016).

2.5.5 General Self-Efficacy Scale

Self-efficacy, i.e. a personal judgment of how well a person is able to cope with a given situation based on the skills they have and the circumstances they face, is assessed by the GSE (Schwarzer & Jerusalem, 2010). The unidimensional scale comprises ten statements, assessing the participants' beliefs of being able to cope with everyday challenges, solve problems, and deal with stressful events. An item representative of the scale is "Thanks to my resourcefulness, I can handle unforeseen situations". Each of the scale's items is rated on a 4-point Likert scale ranging from 1 (*not at all true*) to 4 (*exactly true*), yielding a total score between 10 and 40. In

a comparative study across 25 different countries, the scale presented an internal consistency of Cronbach's α = .86 (Scholz et al., 2002).

2.5.6 Strengths and Difficulties Questionnaire

The SDQ assesses emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior on a 25-item scale (Muris et al., 2003). The scale is available for adults and adolescents, with some items differing between both versions. The item "I am kind to younger children" in the adolescent version corresponds, for example, to the item "I am kind to children" in the adult version. Each of the scale's items are rated on a 3-point Likert scale ranging from 0 (*not true*) to 2 (*certainly true*). All items can be added up to a sum score, which ranges from 0-40. However, the subscales can also be evaluated separately, whereby a higher score on the prosocial behavior subscale reflects a strength and higher scores on the other four subscales reflect difficulties. The scale's internal consistency is Cronbach's α = 0.73 (Goodman, 2001), test-retest reliability is .81 (Muris et al., 2003).

2.5.7 Word Health Organization Quality of Life, brief version

The WHOQoL-BREF is a brief version of the WHOQoL-100 assessment (Skevington et al., 2004; WHOQoL Group, 1998b, 1998a). The scale assesses life quality, defined by the World Health Organization as an individual's perception of their position in life within the respective culture and value system in which they live and in relation to the individual's goals, expectations, standards, and concerns (WHOQoL Group, 1998). The WHOQoL-BREF contains 26 items, assessing life quality across the four domains physical, psychological, social and environmental. The first two items assess overall life quality and general health and are not included when calculating domain scores (WHOQoL Group, 1998). The self-administered scale records answers on four types of 5-point Likert scales inquiring "how much", "how completely", "how often", "how good", or "how satisfied" the respondent felt in the last two weeks, with higher scores indicate a better life quality (Skevington et al., 2004). Reliability, validity and sensitivity to change was found to be good (WHOQoL Group, 1998a). The WHOQoL-BREF displays an internal consistency of α > 0.7 across the four domains, and further shows good validity measures (Skevington et al., 2004).

2.6 Statistical analyses

The same analytical strategy was used for all outcomes by fitting linear mixed models (LMMs) with three hierarchical levels. LMMs that account for intra-cluster correlation between

the responses are a commonly used method to analyze longitudinal data (Rabe-Hesketh et al., 2005). The applied mixed-model comprised the three levels: time of measurement (level 1), nested within patient (level 2), nested within study centers (level 3). Time point (from t_0 to t_i) was included as a continuous growth factor on level 1 and condition (intervention vs. TAU) served as a predictor variable on level 2. Thereby, cross-level interactions (time*group) could be modulated. Primary endpoint was change in depressive symptoms measured by PHQ-9 sum scores over the course from baseline to 12 weeks on level 1. Secondary endpoints were changes in clinician-rated depressive symptoms assessed by the MÅDRS, emotional distress measured by the RHS-15, resilience assessed by the BRS, self-efficacy measured by the GSE, behavioral problems assessed by the SDQ, and life quality measured by the WHOQoL-BREF from baseline to 12 weeks on level 1. Follow-up analyses were performed for all primary and secondary outcomes by fitting linear mixed-effect models with time of measurement (level 1), nested within patient (level 2), nested within study centers (level 3). Randomization group (intervention vs. TAU), time point (t_0 vs. t_1 vs. t_2 vs. t_3), and the interaction of randomization group and time point were included as fixed effects. Differences in the overall model fit between the models were tested for all available outcome data. Post-hoc contrasts were conducted for any differences in slopes from t_0 to t_1, from t_1 to t_2, and from t_1 to t_3 respectively.

Analyses were first performed on the intention-to-treat (ITT) sample, pre-specified as all randomized participants who provided baseline data on the primary outcome. To reflect the empirical data of those participants who actually received and completed the intervention, all analyses were then repeated with the per protocol (PP) sample, pre-specified as all of the randomized participants who attended at least 50% of the provided therapy sessions. Missing values were not imputed in any of the analyses.

Standardized effect sizes (Cohen's *d*) were computed for all group comparisons. Response and remission rates were compared across groups for the two depression-specific scales PHQ-9 and MÅDRS, using logistic regression models. Response was defined as a $\geq 50\%$ reduction of sum scores from baseline to post-intervention on both PHQ-9 and MÅDRS (Riedel et al., 2010; van Diermen et al., 2018). Remission was defined as a PHQ-9 score < 5 (McMillan et al., 2010) and MÅDRS score ≤ 10 (Keller, 2003) at time of post-intervention. Differences between treatment groups regarding sociodemographic data and baseline outcome scores were assessed with χ^2-tests and t-tests. A two-sided alpha level of 0.05 was used for all tests. All analyses were performed using SPSS Version 25 for Mac OS X and R version 4.0.5 (R Development Core Team, 2011).

3. Results

3.1 Patient flow

Participants were recruited between April 2018 and December 2019. Fewer patients dropped out of the study than assumed in the sample size calculation, yielding to a total of 584 randomized participants in the MEHIRA trial. The ITT sample for the present analysis was obtained by extracting adult participants who had a baseline PHQ-9 value of 15-19. This resulted in an ITT sample of 149 participants, assigned to the treatment condition (n = 81) or control group (n = 68). 73 participants in the ITT sample, who had not received the intervention or had attended less than 50% of the group sessions, were not included in the PP sample. Reasons why treatment was not received included having second thoughts about group therapy, starting alternative treatments, having to move due to regulatory requirements and the group not taking place due to insufficient number of participants. The final PP sample comprised 76 participants, including 30 participants in the treatment condition and 46 controls. Patient flow is presented in Figure 7.

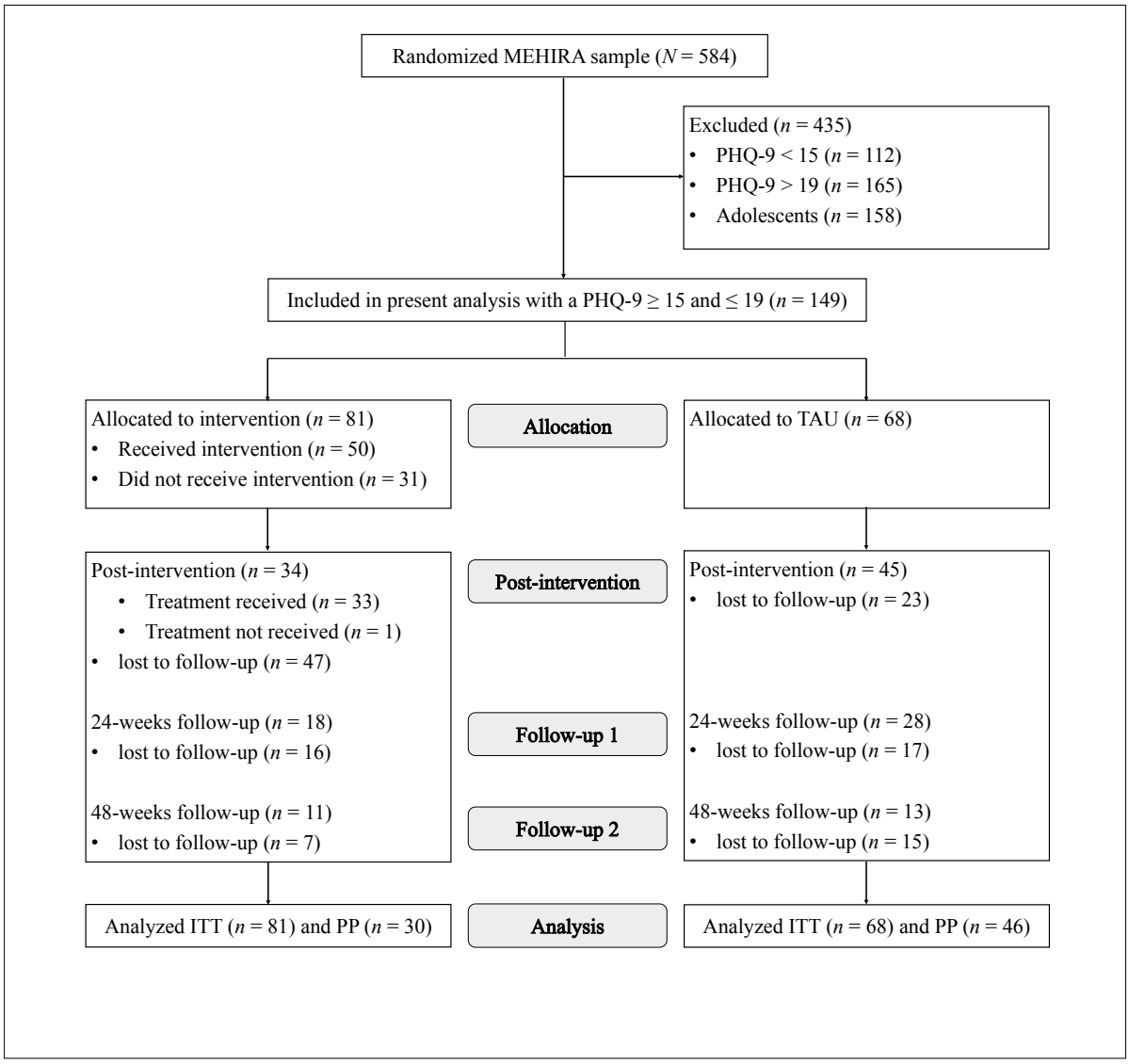
3.2 Baseline characteristics

ITT and PP participants' characteristics in each study group at baseline are presented in Table 2. Participants were predominantly from Afghanistan, Iran, Iraq and Syria. ITT participants had a mean age of 32.2 years (SD = 9.4). The majority of participants in the ITT sample were male (61.7%), had a temporary residence permit upon study admission (86.4%), lived in refugee accommodations (51.0%), and were unemployed (87.5%). Within the ITT sample, there were no significant differences regarding both continuous and categorial variables between the intervention and control group (all ps > .05).

Participants in the PP sample had a mean age of 32.3 years (SD = 10.1). 64.5% of PP participants were male, the majority had a temporary residence permit at baseline (90.8%), lived in refugee accommodations (55.3%) and were unemployed (84.2%). Demographic and clinical characteristics did not differ between both study groups within the PP sample (all ps > .05). Demographic and clinical characteristics of both ITT and PP samples are displayed in Table 2.

Figure 7

CONSORT flow diagram of participants



Note. MEHIRA = Mental Health in Refugees and Asylum Seekers; *n* = number; PHQ-9 = Patient Health Questionnaire-9; TAU = treatment-as-usual; ITT = intention-to-treat; PP = per protocol.

3.1.1 Drop-out analyses

Drop-out rates between intervention and control group showed significant higher drop-out rates in the intervention group compared to the control group at time of post-intervention, $\chi^2(1) = 4.97$, $p = .026$, and at time of follow-up, $\chi^2(1) = 4.56$, $p = .033$. Drop-out rates between both groups did not differ at time of follow-up 2, $\chi^2(1) = 0.46$, $p = .50$. Analyses revealed no significant differences in age, sex, and baseline PHQ-9 sum score between drop-outs and non-drop-outs at time at any measurement time point (all $p > .05$).

Table 2

Demographic and clinical characteristics upon study admission

Baseline characteristic	ITT (*N* = 149)		PP (*N* = 76)	
	Intervention (*n* = 81)	TAU (*n* = 68)	Intervention (*n* = 30)	TAU (*n* = 46)
Demographic characteristics				
Age in years, mean (*SD*)	32.62 (9.08)	31.64 (9.84)	31.87 (8.98)	32.57 (10.80)
Female, *n* / total *n* (%)	35/81 (43.2)	22/68 (32.4)	14/30 (46.6)	13/46 (28.3)
Marital status, *n* / total *n* (%)				
Single	31/81 (38.3)	30/67 (44.8)	13/30 (43.3)	18/30 (60.0)
Married	38/81 (46.9)	23/67 (34.3)	12/30 (40.0)	17/30 (56.7)
Divorced	9/81 (11.1)	10/67 (14.9)	5/30 (16.7)	8/30 (26.7)
Widowed	3/81 (3.7)	4/67 (6.0)	0/30 (0.0)	3/30 (10.0)
Having children, *n* / total *n* (%)	42/81 (51.9)	31/65 (47.7)	14/30 (46.7)	23/46 (50.0)
Residence status, *n* / total *n* (%)[a]				
Permanent residence permit	3/81 (3.7)	3/66 (4.5)	1/30 (3.3)	2/46 (4.3)
Temporary residence permit	73/81 (90.2)	54/66 (81.8)	29/30 (76.7)	40/46 (87.0)
Permanent residence in the EU	1/81 (1.2)	4/66 (6.1)	0/30 (0.0)	2/46 (33.3)
No legal residence permit	3/81 (3.7)	3/66 (4.5)	0/30 (0.0)	1/46 (2.2)
Other	1/81 (1.2)	2(66 (3.1)	0/30(0.0)	1/46 (2.2)
Living situation, *n* / total *n* (%)				
Private flat	32/81 (39.5)	19/66 (28.8)	12/30 (40.0)	13/45 (28.9)
Refugee accommodation[b]	40/81 (49.4)	35/66 (53.0)	16/30 (53.3)	26/45 (57.8)
Shared flat	8/81 (9.9)	10/66 (15.2)	2/30 (6.7)	5/45 (11.1)
Other	1(81 (1.2)	2/66 (3.0)	0/30 (0.0)	1/45 (2.2)
Current employment				
Unemployed	70/78 (89.7)	56/66 (84.8)	27/30 (90.0)	37/46 (80.4)
Employed	8/78 (10.3)	10/66 (15.2)	3/30 (10.0)	9/46 (19.6)
Reasons for migration, *n* / total *n* (%)[c]				
War	49/81 (60.5)	44/68 (64.7)	21/30 (70.0)	30/46 (65.2)
Natural disaster	0/81 (0.0)	1/68 (1.5)	0/30 (0.0)	0/46 (0.0)
Economic crisis	6/81 (7.4)	9/68 (13.2)	4/30 (13.3)	5/46 (10.9)
Individual situation	10/81 (12.3)	12/68 (17.6)	2/30 (6.7)	8/46 (17.4)
Persecution	28/81 (34.6)	28/68 (41.2)	9/30 (30.0)	17/46 (37.0)
Social situation	18/81 (22.2)	18/68 (26.5)	7/30 (23.3)	9/46 (19.6)
Other	6/81 (7.4)	0/68 (0.0)	1/30 (3.3)	0/46 (0.0)
Clinical characteristics				
Subtype of depression, *n* (%)[d]				
Unipolar depression	48/79 (60.8)	35/63 (55.5)	18/30 (60.0)	22/45 (48.9)
Recurrent depressive disorder	18/79 (22.8)	20/63 (31.7)	6/30 (20.0)	17/45 (37.8)
Dysthymia	1/79 (1.3)	3/63 (4.8)	0/30 (0.0)	2/45 (4.4)
Bipolar	1/79 (1.3)	0/63 (0.0)	0/30 (0.0)	0/45 (0.0)
No diagnosis according to MINI[e]	11/79 (13.9)	5/63 (7.9)	6/30 (20.0)	4/45 (8.9)
Reported traumatic events, mean (*SD*)	10.05 (6.35)	10.53 (6.35)	10.48 (6.40)	10.50 (6.12)
One comorbid axis I disorder, *n* (%)	28/79 (35.4)	16/63 (25.4)	12/30 (40.0)	11/45 (24.4)
≥ 2 comorbid axis I disorders, *n* (%)	20/79 (25.3)	20/63 (31.7)	7/30 (23.3)	15/45 (33.3)
PTSD, *n* (%)	33/79 (41.8)	22/63 (34.9)	13/30 (43.3)	18/45 (40.0)
Substance use disorder, *n* (%)	5/79 (6.3)	4/63 (6.3)	0/45 (0.0)	2/45 (4.4)
Concomitant antidepressants, *n* (%)	31/80 (38.8)	28/67 (41.8)	14 (46.7)	22/46 (47.8)
Concomitant psychotherapy, *n* (%)	15/79 (19.0)	12/66 (18.2)	5/30 (16.7)	8/45 (17.8)

Note. ITT = intention-to-treat; PP = per protocol; *n* = number; *SD* = standard deviation; MINI = Mini International Neuropsychiatric Interview; PTSD = Post-traumatic Stress Disorder.
[a] Residence status upon study admission. Temporary residence status includes asylum seekers, asylum-applicants, individuals under subsidiary protection, people under a ban on deportation and people with a tolerated right to stay. No information regarding residence status was obtained for two control participants.
[b] Refugee accommodation includes initial reception centers, AnkER-centers, collective accommodation centers and decentralized accommodation.
[c] Multiple answers possible.
[d] No MINI was conducted with 7 subjects in the ITT sample and with one participant in the PP sample.
[e] 16 (10.7%) participants in ITT sample and 10 (13.2%) participant in the PP sample did not meet criteria for any affective disorder in the MINI.

3.3 Intention-to-treat analyses

3.3.1 Primary outcome

For the ITT sample, PHQ-9 data were available for 149 participants at t_0 and for 77 participants at t_1. A time (t_0 vs. t_1) by group (intervention vs. TAU) interaction significantly predicted PHQ-9 sum scores, $F_{(1,147)} = 13.32$, $p < .001$. Post hoc analyses revealed that PHQ-9 scores in the control group showed no change from baseline to post-intervention, $\beta = 1.03$, $t_{(130.95)} = 1.51$, $p = .133$, whereas PHQ-9 scores in the intervention group showed a significant decrease in the same time period, $\beta = -2.60$, $t_{(153.62)} = -3.59$, $p < .001$. The effect size of the Empowerment intervention was $d = 0.68$, 95% CI [0.21, 1.15], indicating a moderate treatment effect. Trajectories of PHQ-9 sum scores from t_0 to t_1 are presented in Table 3. PHQ-9 scores as a function of group (intervention vs. TAU) and time (t_0 vs. t_1) are displayed in Figure 8.

3.3.2 Secondary outcomes

For the ITT sample, MÅDRS data were available for 142 participants at t_0 and for 78 participants at t_1. For MÅDRS scores as the dependent variable, analyses revealed a main effect of time, $F_{(1,140)} = 15.13$, $p < .001$, together with a significant time (t_0 vs. t_1) by group (intervention vs. TAU) interaction, $F_{(1,140)} = 6.91$, $p = .01$. Post hoc analyses revealed no change in MÅDRS scores in the control group, $\beta = -1.41$, $t_{(107.28)} = -0.934$, $p = .352$, whereas Empowerment group participants showed a significant improvement in clinician-rated depressive symptoms from baseline to post-intervention, $\beta = -7.27$, $t_{(137.44)} = -4.43$, $p < .001$. The effect size of the Empowerment intervention was $d = 0.51$, 95% CI [0.04, 0.99], indicating a moderate treatment effect. Data on the RHS-15 were available for 148 participants at t_0 and 77 participants at t_1. For RHS-15 scores as the dependent variable, analyses revealed a main effect of time, $F_{(1,146)} = 9.04$, $p = .003$, indicating a reduction on RHS-15 sum scores between t_0 and t_1, irrespective of randomization group. Data on the BRS were available for 137 participants

at t_0 and for 72 participants at t_1. Analyses revealed a main effect of group, $F_{(1,135)} = 4.84$, $p = .029$. Moreover, a time (t_0 vs. t_1) by group (intervention vs. TAU) interaction significantly predicted BRS scores, $F_{(1,135)} = 5$, $p = .028$, indicating an increase in resilience in the intervention group but not in the control condition. Analyses of the GSE showed no significant effects. Data on the SDQ were available for 137 participants at t_0 and for 71 participants at t_1. Analyses on SDQ scores revealed a main effect of time, $F_{(1,135)} = 4.61$, $p = .035$, together with a significant time (t_0 vs. t_1) by randomization group (intervention vs. TAU) interaction, $F_{(1,135)} = 5.68$, $p = .02$, indicating a reduction in behavior problems in the intervention group but not in the control group. The WHOQoL-BREF was evaluated separately for the four domains physical, psychological, social and environmental. In addition, the first two items were evaluated as a measure of the general quality of life. Data on the WHOQoL-BREF were available for 136 participants at t_0 and for 71 participants at t_1. Time significantly predicted psychological quality of life at time of post-intervention, $F_{(1,134)} = 14.34$, $p < .001$, indicating a deterioration in psychological life quality from baseline to time of post-intervention, regardless of group condition. No significant effects on any of the other WHOQoL-BREF subscales were found. Trajectories of secondary outcomes sum scores from t_0 to t_1 are presented in Table 3. Secondary outcomes as a function of group (intervention vs. TAU) and time (t_0 vs. t_1) are shown in Figure 8.

Table 3

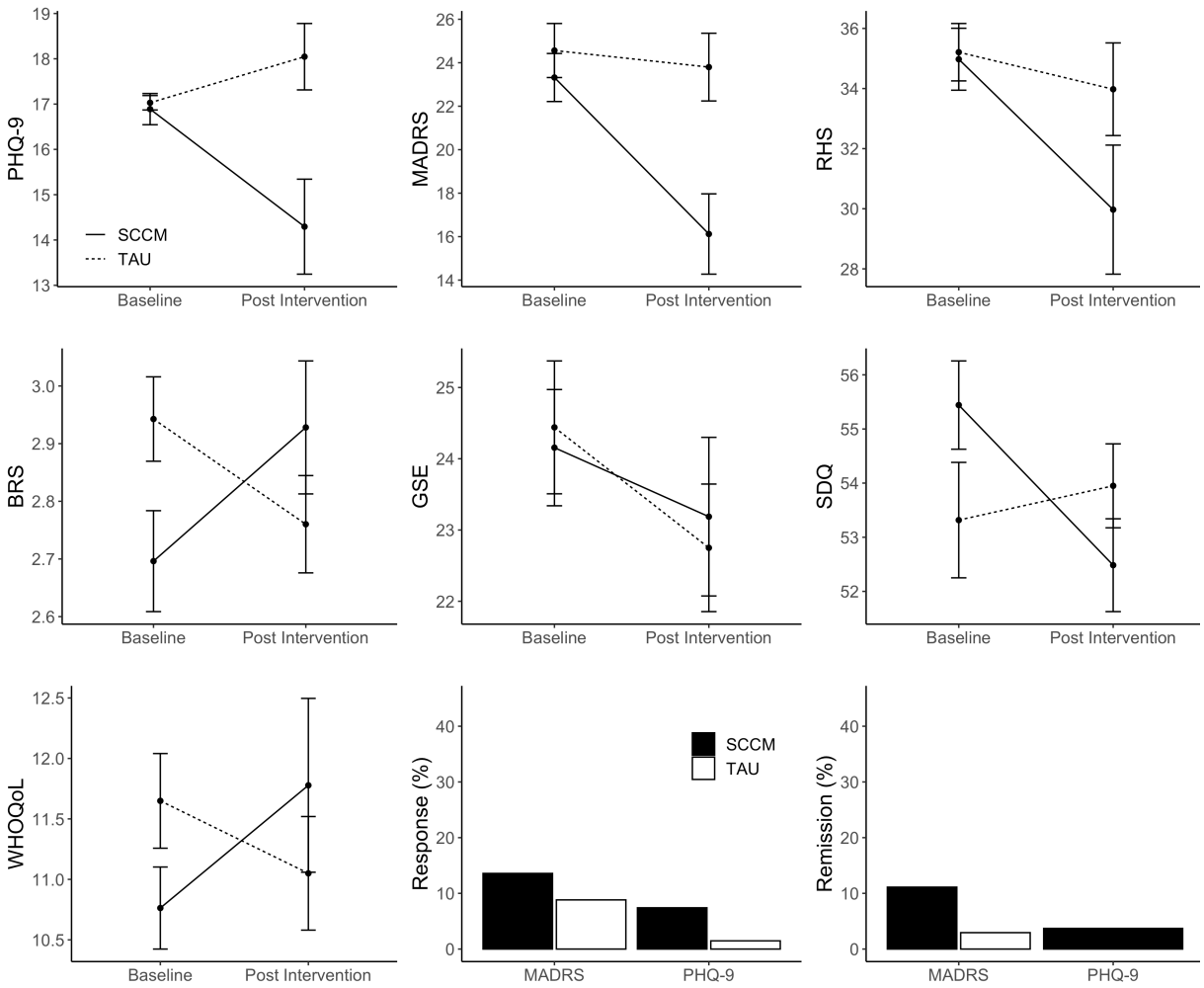
Trajectories of primary and secondary outcomes from baseline to post-intervention within the ITT sample

	Intervention		TAU		Group		Time		Time x Group		ES
	BL	Post	BL	Post							
Outcome	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*F*	*p*	*F*	*p*	*F*	*p*	*d*
PHQ-9	16.89 (3.1)	14.29 (6.11)	17.03 (1.32)	18.05 (4.81)	0.03	.857	2.48	.118	13.32	<.001	0.68 (0.21 to 1.15)
MÅDRS	23.32 (9.76)	16.12 (10.61)	24.56 (9.95)	23.8 (10.45)	0.81	.369	15.13	<.001	6.91	.01	0.51 (0.04 to 0.99)
RHS-15	34.98 (9.27)	29.97 (12.52)	35.21 (7.82)	33.98 (10.11)	0.02	.901	9.04	.003	3.39	.068	0.44 (-0.02 to 0.9)
BRS	2.7 (0.77)	2.93 (0.65)	2.94 (0.57)	2.76 (0.53)	4.84	.029	0.33	.567	5	.028	-0.42 (-0.89 to 0.06)
GSE	24.16 (7.16)	23.19 (6.3)	24.44 (7.16)	22.75 (5.66)	0.06	.814	2.84	.096	0.09	.76	-0.04 (-0.51 to 0.43)
SDQ	55.44 (7.16)	52.48 (4.77)	53.32 (8.26)	53.95 (4.9)	3.11	.08	4.61	.035	5.68	.02	0.58 (0.09 to 1.07)
WHOQoL-BREF (item 1+2)	10.76 (2.96)	11.78 (3.73)	11.65 (2.95)	11.05 (2.97)	2.64	.106	0.12	.726	2.71	.103	-0.26 (-0.76 to 0.25)
WHOQoL-BREF (phys.)	44.46 (16.64)	47.98 (20.73)	43.14 (14.11)	41.13 (12.76)	1.20	.274	0.01	.933	0.86	.357	-0.22 (-0.71 to 0.27)
WHOQoL-BREF (psych.)	47.74 (16.43)	40.53 (23.69)	47.54 (14.68)	38.23 (14.86)	0.01	.928	14.34	<.001	0.07	.791	0.06 (-0.43 to 0.56)
WHOQoL-BREF (social)	45.34 (21.63)	44.09 (27.15)	48.79 (23.17)	48.96 (20.92)	0.67	.415	0.01	.94	0.05	.826	0.08 (-0.41 to 0.57)
WHOQoL-BREF (environ.)	48.75 (16.84)	52.79 (19.23)	46.44 (15.38)	49.77 (13.11)	0.70	.403	2.67	.106	0.00	.954	0.08 (-0.41 to 0.56)

Note. TAU = treatment-as-usual; BL = Baseline; Post = Post-intervention; *M* = mean; *SD* = standard deviation; ES = effect size; *d* = Cohen's *d*; *OR* = odds ratio; CI = confidence interval; BL = baseline; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Figure 8

Primary and secondary outcome variables as a function of time and group within the ITT sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL = World Health Organization Quality of Life questionnaire, brief version, item 1 + 2. Error bars represent ± 1 standard error.

3.3.3 Follow-up analyses

For the ITT sample, primary outcome data were available for 149 participants at t_0, 77 participants at t_1, 44 participants at t_2, and 22 participants at t_3. For PHQ-9 scores as the dependent variable, analyses revealed a main effect of time, $F_{3,\,444} = 20.34, p < .001$, together with a significant time (t_0 vs. t_1 vs. t_2 vs. t_3) by randomization group (intervention vs. TAU) interaction, $F_{3,\,444} = 6.83, p = .009$. Post-hoc comparisons using *t*-tests indicated significant differences in slopes of PHQ-9 trajectories between both groups from baseline to post-

intervention, $t(216.37) = -3.39$, $p = .001$, but not from post-intervention to follow-up 1, $t(218.84) = 1.39$, $p = .166$, and from post-intervention to follow-up 2, $t(224.69) = -0.26$, $p = .794$.

Data for the MÅDRS were available for 142 participants at t_0, 78 participants at t_1, 46 participants at t_2, and 24 participants at t_3. Analyses revealed a main effect of time, $F_{3, 423} = 22.11$, $p < .001$, indicating a significant reduction in clinician-rated depressive symptoms across all measurement time points. Data for the RHS-15 were available for 148 participants at t_0, 77 participants at t_1, 43 participants at t_2, and 22 participants at t_3. Time significantly predicted RHS-15 sum scores, $F_{3, 441} = 12.71$, $p < .001$, indicating a decrease in emotional distress regardless of group condition. Data for the BRS were available for 137 participants at t_0, 72 participants at t_1, 41 participants at t_2, and 19 participants at t_3, with group condition significantly predicting BRS sum scores, $F_{3, 408} = 3.10$, $p = .008$. Data for the SDQ were available for 137 participants at t_0, 71 participants at t_1, 40 participants at t_2, and 0 participants at t_3. Analyses revealed a main effect of time, $F_{3, 408} = 3.10$, $p < .001$, and a significant group by time interaction, $F_{3, 408} = 8.44$, $p = .004$, with post-hoc comparisons indicating significant differences in slopes for SDQ sum scores between both study groups from baseline to post-intervention, $t(120.84) = -2.32$, $p = .022$, but not from post-intervention to follow-up 1, $t(119.42) = -0.54$, $p = .059$. Data for the WHOQoL-BREF were available for 136 participants at t_0, 71 participants at t_1, 40 participants at t_2, and 19 participants at t_3. Time significantly predicted participants' psychological life, $F_{3, 405} = 7.35$, $p = .007$, indicating a reduction in psychological quality of life regardless of group condition.

Trajectories of all primary and secondary outcomes across all four measurement time points are presented in Table 4. Primary and secondary outcomes as a function of group (intervention vs. TAU) and time (t_0 vs. $t_{1\ v}$ vs. t_2 vs. t_3) are shown in Figure 9. Post-hoc comparisons of all primary and secondary outcomes within the ITT sample are presented in Appendix C. Appendix D presents the four domains of the WHOQoL-BREF as a function of group (intervention vs. TAU) and time (t_0 vs. $t_{1\ v}$ vs. t_2 vs. t_3).

3.3.4 Response and remission rates

Response and remission rates for both depression-specific outcomes PHQ-9 and MÅDRS were calculated for time of post-intervention, follow-up 1, and follow-up 2 (Table 5). Group participants showed significantly higher response rates compared to the control group based on PHQ-9 sum scores, $OR = 9$, $p = .047$, 95% CI [1.43, 174.78], and MÅDRS sum scores at time of post-intervention, $OR = 3.74$, $p = .032$, 95% CI [1.15, 13.62]. Remission rates based

on MÅDRS sum scores were significantly higher in the intervention group compared to the control group, *OR* = 13.55, *p* = .006, 95% CI [2.51, 118.77]. Response and remission rates between both groups did not differ significantly at time of follow-up 1 and follow-up 2.

Table 4

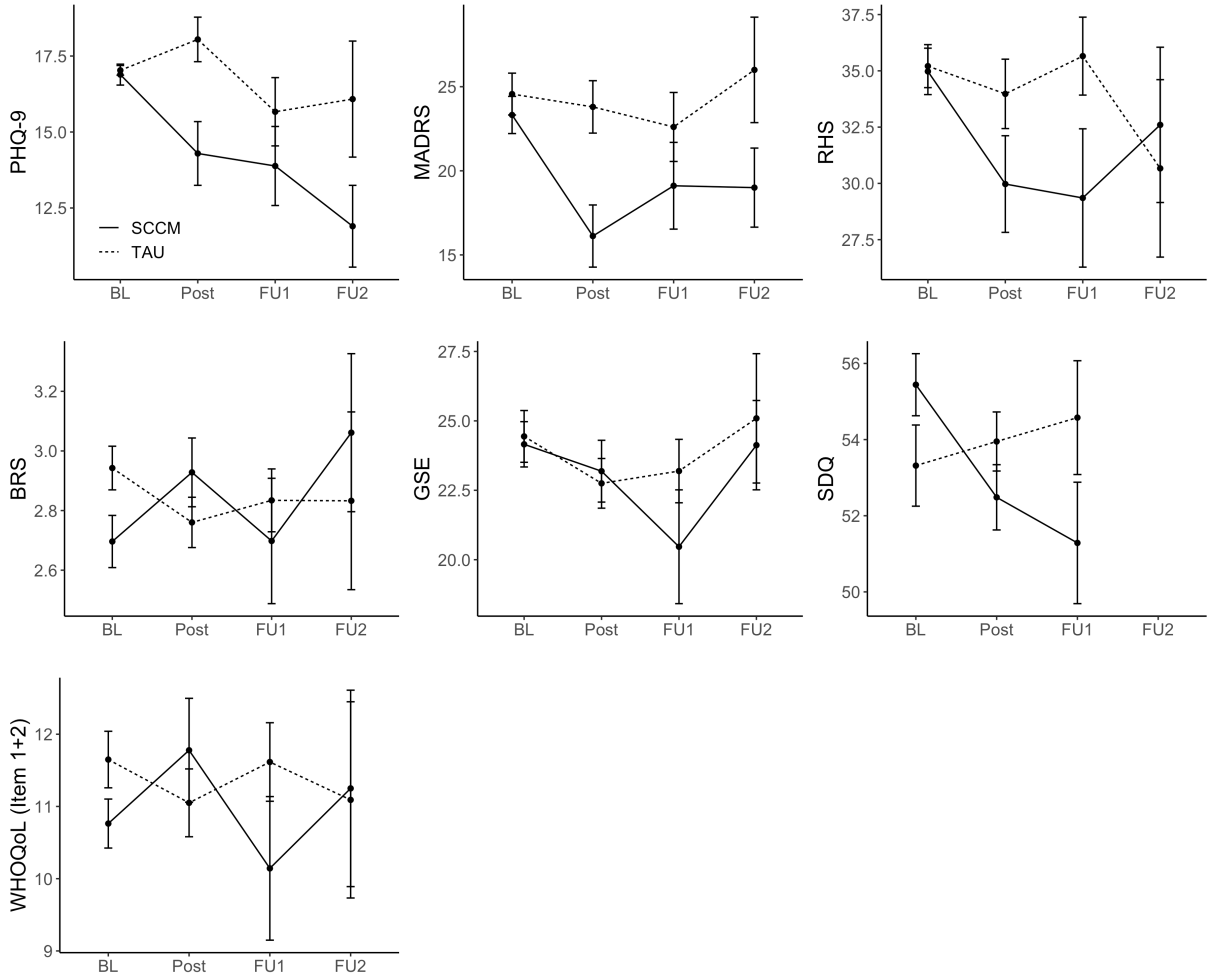
Trajectories of primary and secondary outcomes across all four measurement time points within the ITT sample

	Intervention				TAU											
	BL	Post	FU1	FU2	BL	Post	FU1	FU2	Group		Time		Time x Group		ES FU1	ES FU2
Outcome	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*F*	*p*	*F*	*p*	*F*	*p*	*d* ($CI_{95\%}$)	*d* ($CI_{95\%}$)
Primary outcome																
PHQ-9	16.89 (3.1)	14.29 (6.11)	13.88 (5.36)	11.9 (4.25)	17.03 (1.32)	18.05 (4.81)	15.67 (5.84)	16.08 (6.61)	0.85	.358	20.34	<.001	6.83	.009	-0.7 (-1.44 to 0.04)	0.09 (-0.92 to 1.09)
Secondary outcomes																
MÅDRS	23.32 (9.76)	16.12 (10.61)	19.11 (10.94)	19 (7.8)	24.56 (9.95)	23.8 (10.45)	22.61 (10.85)	26 (11.31)	2.23	.137	22.11	<.001	2.76	.098	-0.35 (-1.06 to 0.37)	-0.2 (-1.17 to 0.76)
RHS-15	34.98 (9.27)	29.97 (12.52)	29.35 (12.67)	32.6 (10.91)	35.21 (7.82)	33.98 (10.11)	35.65 (8.83)	30.67 (13.65)	0.14	.706	12.71	<.001	1.63	.203	0.04 (-0.68 to 0.76)	0.01 (-1 to 1.01)
BRS	2.7 (0.77)	2.93 (0.65)	2.7 (0.81)	3.06 (0.75)	2.94 (0.57)	2.76 (0.53)	2.83 (0.54)	2.83 (0.99)	3.10	.008	1.81	.18	1.51	.220	0.8 (-0.01 to 1.6)	0.18 (-0.96 to 1.32)
GSE	24.16 (7.16)	23.19 (6.3)	20.47 (7.94)	24.12 (4.55)	24.44 (7.16)	22.75 (5.66)	23.19 (5.82)	25.09 (7.73)	0.00	.992	2.16	.144	1.50	.220	0.31 (-0.47 to 1.09)	0.11 (-1.03 to 1.25)
SDQ	55.44 (7.16)	52.48 (4.77)	51.29 (5.97)	NaN (NA)	53.32 (8.26)	53.95 (4.9)	54.58 (7.62)	NaN (NA)	3.10	.080	4.46	.036	8.44	.004	-0.03 (-0.81 to 0.75)	NaN (NaN to NaN)
WHOQoL-BREF (Item 1+2)	10.76 (2.96)	11.78 (3.73)	10.14 (3.72)	11.25 (3.85)	11.65 (2.95)	11.05 (2.97)	11.62 (2.77)	11.09 (4.5)	1.85	.176	0.04	.847	0.64	.423	0.33 (-0.48 to 1.14)	-0.17 (-1.38 to 1.05)
WHOQoL-BREF (physical)	46.46 (16.64)	47.98 (20.73)	47.53 (16.71)	42.86 (15.86)	43.14 (14.11)	41.13 (12.76)	44.02 (15.88)	44.16 (24.86)	2.08	.151	0.39	.534	0.12	.727	0.58 (-0.23 to 1.39)	0.12 (-1.02 to 1.26)
WHOQoL-BREF (psych.)	47.74 (16.43)	40.53 (23.69)	39.68 (21.4)	40.1 (13.16)	47.54 (14.68)	38.23 (14.86)	41.83 (16.77)	43.11 (24.38)	0.31	.579	7.35	.007	0.87	.352	0.19 (-0.6 to 0.97)	0.09 (-1.05 to 1.23)
WHOQoL-BREF (social)	45.34 (21.63)	44.09 (27.15)	42.86 (21.89)	48.96 (19.64)	48.79 (23.17)	48.96 (20.92)	51.74 (24.07)	44.17 (26.66)	0.91	.342	0.03	.863	.06	.805	0.54 (-0.35 to 1.34)	0.47 (-1.02 to 1.62)
WHOQoL-BREF (environ.)	48.75 (16.84)	52.79 (19.23)	49.28 (18.97)	50 (8.68)	46.44 (15.38)	49.77 (13.11)	55.51 (13.22)	53.08 (19.62)	0.83	.364	3.68	.057	2.28	.133	0.64 (-0.01 to 1.45)	0.2 (-0.52 to 1.34)

Note. TAU = treatment-as-usual; BL = baseline, Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; *M* = mean; *SD* = standard deviation; ES = effect size; *d* = Cohen's *d*; CI = confidence interval; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Figure 9

Primary and secondary outcome variables as a function of study group across all four measurement times within the ITT sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; BL = baseline; Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL World Health Organization Quality of Life questionnaire, brief version, item 1 + 2. Error bars represent ± 1 standard error.

Table 5

Response and remission rates for both depression-specific outcomes at time of post-intervention, follow-up 1, and follow-up 2 within the ITT sample

Outcome	N (%) SCCM Post	N (%) TAU Post	N (%) SCCM FU1	N (%) TAU FU1	N (%) SCCM FU2	N (%) TAU FU2	Post *z* Group	Post *p* Group	Post ES Treatment	FU1 *z* Group	FU1 *p* Group	FU1 ES Treat-ment	FU2 *z* Group	FU2 *p* Group	FU2 ES Treat-ment
Response PHQ	6 (7.41)	1 (1.47)	3 (3.7)	2 (2.94)	2 (2.47)	1 (1.47)	1.984	.047	9 (1.43 to 174.78)	1.014	.311	2.68 (0.4 to 22.24)	0.772	.44	2.75 (0.22 to 65.45)
Remission PHQ	3 (3.7)	NA (NA)	NA (NA)	1 (1.47)	NA (NA)	1 (1.47)									
Response MADRS	11 (13.58)	6 (8.82)	5 (6.17)	3 (4.41)	3 (3.7)	1 (1.47)	2.143	.032	3.74 (1.15 to 13.62)	1.389	.165	3.08 (0.65 to 17.14)	1.211	.226	4.5 (0.48 to 100.34)
Remission MADRS	9 (11.11)	2 (2.94)	2 (2.47)	3 (4.41)	1 (1.23)	1 (1.47)	2.73	.006	13.55 (2.51 to 118.77)	0	1	1 (0.12 to 6.71)	0.123	.902	1.2 (0.04 to 33)

Note. SCCM = Empowerment intervention within the Stepped and Collaborative Care Model; TAU = treatment-as-usual; Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; ES = effect size; CI = confidence interval; BL = baseline; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale. Response was defined as a decrease in the score (indicating less depression) of 50% or more from baseline to endpoint. Remission was defined as a PHQ-9 score < 5 or MÅDRS score < 10.

3.4 Per protocol analyses

3.4.1 Primary outcome

Within the PP sample, primary outcome data were available for 76 participants at t_0 and 72 participants at t_1. A time (t_0 vs. t_1) by group (intervention vs. TAU) interaction significantly predicted PHQ-9 scores, $F_{(1,74)} = 8.25$, $p = .005$. Post hoc analyses revealed that PHQ-9 scores in the control group showed no change from baseline to post-intervention, $\beta = 1.12$, $t_{(74.73)} = 1.35$, $p = .180$, whereas Empowerment group participants showed a significant improvement in severity of self-rated depressive symptoms in the same period, $\beta = -2.63$, $t_{(73.55)} = -2.60$, $p = .011$. The effect size of the Empowerment intervention was $d = 0.67$, 95% CI [0.18, 1.16], indicating a moderate treatment effect. Trajectories of PHQ-9 sum scores from t_0 to t_1 are presented in Table 5. PHQ-9 scores as a function of group (intervention vs. TAU) and time (t_0 vs. t_1) are shown in Figure 10.

3.4.2 Secondary outcomes

For the PP sample, MÅDRS data were available for 74 participants at t_0 and for 73 participants at t_1. For MÅDRS scores as the dependent variable, analyses revealed a main effect of time, $F_{(1,72)} = 12.06$, $p = .001$, together with a significant time (t_0 vs. t_1) by group (intervention

vs. TAU) interaction, $F_{(1,72)} = 4.06$, $p = .048$. Post hoc analyses revealed that MÅDRS scores in the control group showed no change from baseline to post-intervention, $\beta = -1.89$, $t_{(73.45)} = -1.16$, $p = .250$, whereas Empowerment group participants showed a significant improvement in severity of clinician-rated depressive symptoms in the same period, $\beta = -7.10$, $t_{(73.84)} = -3.53$, $p < .001$. The effect size of the intervention was $d = 0.52$, 95% CI [0.03, 1.01], indicating a moderate treatment effect.

Data on the RHS-15 were available for 76 participants at t_0 and 72 participants at t_1. For RHS-15 scores as the dependent variable, we found a main effect of time, $F_{(1,74)} = 11$, $p = .001$, together with a significant time (t_0 vs. t_1) by randomization group (intervention vs. TAU) interaction, $F_{(1,74)} = 4.56$, $p = .036$. Data on the SDQ were available for 71 participants at t_0 and for 67 participants at t_1. Analyses of SDQ sum scores as the dependent variable revealed main effects of group, $F_{(1,69)} = 5.09$, $p = .026$, and time, $F_{(1,69)} = 7.53$, $p = .008$, as well as a significant time (t_0 vs. t_1) by randomization group (intervention vs. TAU) interaction, $F_{(1,69)} = 6.83$, $p = .011$. Data on the WHOQoL-BREF were available for 71 participants at t_0 and for 67 participants at t_1. Time predicted psychological life quality at time of post-intervention in all participants regardless of group condition, $F_{(1,69)} = 11.25$, $p = .001$, indicating a deterioration in psychological life quality from baseline to time of post-intervention. There were no significant changes in any of the other domains or on the indicator for general quality of life.

Analyses of the BRS and GSE showed no significant effects of group or time. Trajectories of all secondary outcomes from t_0 to t_1 are presented in Table 6. Secondary outcomes as a function of group (intervention vs. TAU) and time (t_0 vs. t_1) are shown in Figure 10.

Table 6

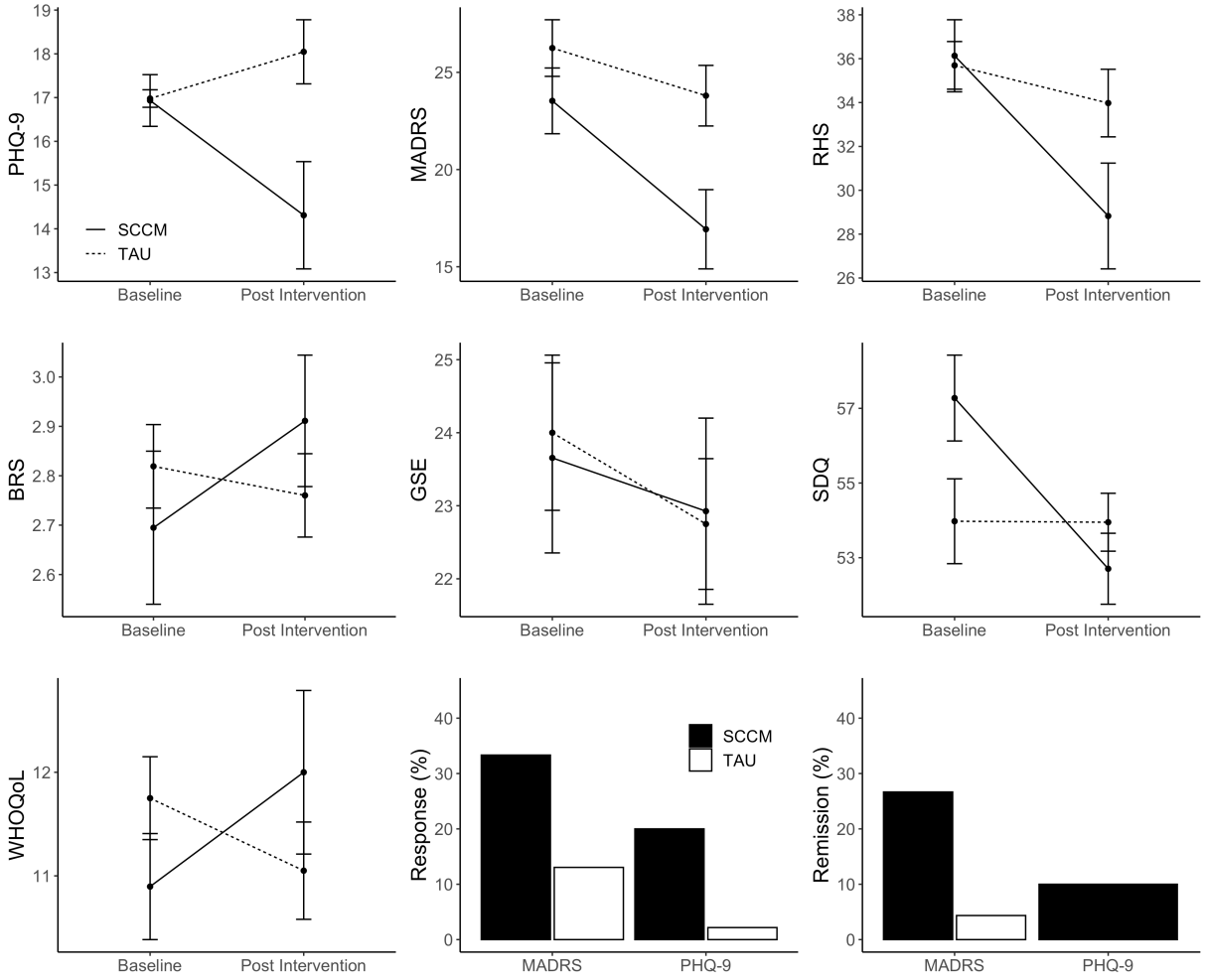
Trajectories of primary and secondary outcomes from baseline to post-intervention within the PP sample

	Intervention		TAU								
	BL	Post	BL	Post	Group		Time		Time x Group		ES
Outcome	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*F*	*p*	*F*	*p*	*F*	*p*	*d*
Primary outcome											
PHQ-9	16.93 (3.24)	14.31 (6.6)	16.98 (1.36)	18.05 (4.81)	0.01	.921	1.35	.249	8.25	.005	0.67 (0.18 to 1.16)
Secondary outcomes											
MÅDRS	23.53 (9.26)	16.93 (10.78)	26.25 (9.65)	23.8 (10.45)	0.76	.386	12.06	.001	4.06	.048	0.52 (0.03 to 1.01)
RHS-15	36.13 (9)	28.83 (12.98)	35.7 (7.37)	33.98 (10.11)	0.25	.618	11	.001	4.56	.036	0.5 (0.01 to 0.98)
BRS	2.69 (0.83)	2.91 (0.69)	2.82 (0.55)	2.76 (0.53)	0.69	.408	0.72	.399	2.12	.15	-0.37 (-0.87 to 0.13)
GSE	23.66 (7.01)	22.93 (6.62)	24 (6.89)	22.75 (5.66)	0.05	.816	1.7	.196	0.07	.798	-0.05 (-0.55 to 0.45)
SDQ	57.28 (6.19)	52.7 (4.94)	53.98 (7.36)	53.95 (4.9)	5.09	.026	7.53	.008	6.83	.011	0.6 (0.09 to 1.1)
WHOQoL-BREF (item 1+2)	10.9 (2.76)	12 (3.87)	11.75 (2.53)	11.09 (2.97)	1.66	.2	0.1	.751	2.98	.089	-0.31 (-0.8 to 0.21)
WHOQoL-BREF (physical)	45.75 (14.79)	49.18 (21.77)	42.36 (13.96)	41.13 (12.76)	0.53	.469	0.17	.683	1.42	.237	-0.3 (-0.8 to 0.21)
WHOQoL-BREF (psych.)	49.43 (15.93)	40.99 (23.94)	46.6 (15.67)	38.23 (14.86)	0.34	.56	11.25	.001	0	.959	0.04 (-0.47 to 0.55)
WHOQoL-BREF (social)	41.95 (20.83)	42.59 (25.25)	46.6 (15.67)	38.23 (14.86)	0.83	.364	0.14	.714	0.04	.84	0.06 (-0.45 to 0.56)
WHOQoL-BREF (environ.)	48.46 (15.87)	52.78 (19.3)	46.69 (14.45)	49.77 (13.11)	0.11	.737	2.43	.124	0.03	.874	0.02 (-0.48 to 0.52)

Note. TAU = treatment-as-usual; BL = baseline, Post = post-intervention; *M* = mean; *SD* = standard deviation; ES = effect size; *d* = Cohen's *d*; CI = confidence interval; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Figure 10

Primary and secondary outcome variables at primary study endpoint within the PP sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL = World Health Organization Quality of Life questionnaire, brief version, item 1 + 2. Error bars represent ± 1 standard error.

3.4.3 Follow-up analyses

For the PP sample, PHQ-9 sum scores were available for 76 participants at t_0, 72 participants at t_1, 37 participants at t_2, and 18 participants at t_3. Applying a linear mixed model with PHQ-9 scores as the dependent variable, a fixed effect for time (t_0 vs. t_1 vs. t_2 vs. t_3), and a time by randomization group interaction (intervention vs. TAU), analyses revealed a main effect of time, $F_{3, 225} = 14.87, p < .001$, together with a significant time by randomization group interaction, $F_{3, 225} = 4.89, p = .028$. Pairwise comparisons using *t*-tests indicated significant differences in slopes for PHQ-9 sum scores between both groups from baseline to post-

intervention, $t(129.76) = -2.78$, $p = .006$, but not from post-intervention to follow-up 1, $t(151.57) = 0.69$, $p = .491$, and from post-intervention to follow-up 2, $t(156.37) = -0.26$, $p = .794$.

Data for the MÅDRS were available for 74 participants at t_0, 73 participants at t_1, 38 participants at t_2, and 19 participants at t_3. Analyses revealed a main effect of time, $F_{3, 219} = 18.16$, $p < .001$, indicating a significant reduction in clinician-rated depressive symptoms across all measurement time points. Data for the RHS-15 were available for 76 participants at t_0, 72 participants at t_1, 36 participants at t_2, and 18 participants at t_3. Time significantly predicted RHS-15 sum scores, $F_{3, 225} = 12.73$, $p < .001$, indicating a decrease in emotional distress in both study groups. Data for the SDQ were available for 71 participants at t_0, 67 participants at t_1, 34 participants at t_2, and 0 participants at t_3. Analyses revealed main effects of time, $F_{3, 210} = 8.03$, $p = .005$, and a significant group by time interaction, $F_{3, 210} = 11.15$, $p = .001$, with pairwise comparisons indicating significant differences in slopes for SDQ sum scores between both study groups from baseline to post-intervention, $t(101.76) = -2.57$, $p = .012$. Data for the WHOQoL-BREF were available for 71 participants at t_0, 67 participants at t_1, 33 participants at t_2, and 15 participants at t_3. Time significantly predicted participants' environmental life quality, $F_{3, 210} = 4.01$, $p = .047$, indicating a reduction in psychological quality of life regardless of group condition. All other follow-up analyses revealed no significant effects. Trajectories of all primary and secondary outcomes across all four measurement time points are presented in Table 7. Primary and secondary outcomes as a function of group (intervention vs. TAU) and time (t_0 vs. $t_{1\,v}$ vs. t_2 vs. t_3) are shown in Figure 11. Post-hoc comparisons of all primary and secondary outcomes within the PP sample are presented in Appendix C. Appendix D presents the four domains of the WHOQoL-BREF as a function of group (intervention vs. TAU) and time (t_0 vs. $t_{1\,v}$ vs. t_2 vs. t_3).

3.4.4 Response and remission rates

Response and remission rates were calculated at time of post-intervention for both depression-specific measures PHQ-9 and MÅDRS (Table 8). Group participants showed a significantly higher response rate compared to the control group based on PHQ-9 measurements, $OR = 10.96$, $p = .031$, 95% CI [1.73, 213.57]. Based on MÅDRS sum scores, rates of response, $OR = 3.68$, $p = .038$, 95% CI [1.09, 13.74], and remission, $OR = 11.85$, $p = .01$, 95% CI [2.17, 102.91], were significantly higher in the intervention group compared to the control group. Response and remission rates between both groups did not differ significantly at time of follow-up 1 and follow-up 2.

Table 7

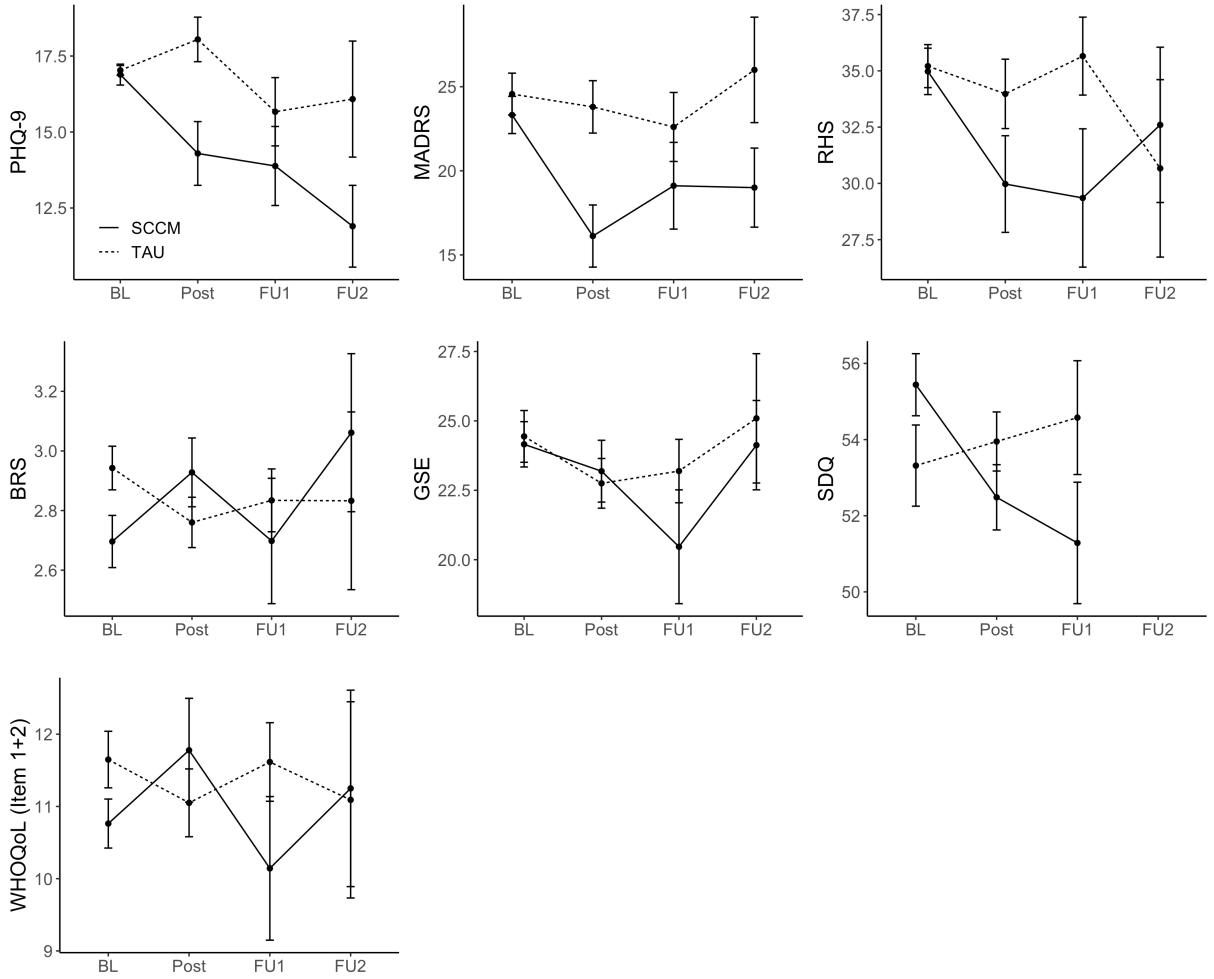
Trajectories of primary and secondary outcomes across all four measurement time points within the PP sample

	Intervention				TAU											
	BL	Post	FU1	FU2	BL	Post	FU1	FU2	Group		Time		Time x Group		ES FU1	ES FU2
Outcome	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*F / z*	*p*	*F*	*p*	*F*	*p*	*d* (CI95%)	*d* (CI95%)
Primary outcome																
PHQ-9	16.93 (3.24)	14.31 (6.6)	12.92 (5.58)	11.71 (4.61)	16.98 (1.36)	18.05 (4.81)	15.64 (6.07)	16 (6.93)	0.48	.488	14.87	<.001	4.89	.028	-0.7 (-1.46 to 0.06)	0.08 (-0.97 to 1.13)
Secondary outcomes																
MÅDRS	23.53 (9.26)	16.93 (10.78)	18.92 (10.66)	19.14 (7.22)	26.25 (9.65)	23.8 (10.45)	22.62 (11.28)	25.67 (11.74)	2.61	.108	18.16	<.001	1.93	.167	-0.29 (-1.02 to 0.45)	0.08 (-0.97 to 1.13)
RHS-15	36.13 (9)	28.83 (12.98)	26.67 (12.76)	30.71 (9.14)	35.7 (7.37)	33.98 (10.11)	35.71 (9.03)	31.09 (14.24)	0.09	.768	12.73	<.001	2.86	.093	-0.01 (-0.75 to 0.74)	-0.18 (-1.18 to 0.83)
BRS	2.69 (0.83)	2.91 (0.69)	2.82 (0.9)	3.07 (0.61)	2.82 (0.55)	2.76 (0.53)	2.81 (0.49)	2.97 (0.93)	0.15	.698	3.23	.075	0.97	.327	0.8 (-0.04 to 1.63)	-0.03 (-1.08 to 1.02)
GSE	23.66 (7.01)	22.93 (6.62)	20.3 (8.63)	23.4 (3.51)	24 (6.89)	22.75 (5.66)	23.42 (6.01)	25.7 (7.86)	0.00	.957	0.49	.487	0.87	.351	0.28 (-0.53 to 1.09)	0.32 (-0.91 to 1.54)
SDQ	57.28 (6.19)	52.7 (4.94)	50.3 (5.81)	NaN (NA)	53.98 (7.36)	53.95 (4.9)	54.83 (7.86)	NaN (NA)	4.69	.032	8.03	.005	11.15	.001	-0.01 (-0.82 to 0.8)	0.09 (-1.13 to 1.3)
WHOQoL-BREF (Item 1+2)	10.9 (2.76)	12 (3.87)	10.89 (3.89)	12 (3.16)	11.75 (2.53)	11.05 (2.97)	11.92 (2.67)	11.4 (4.62)	0.56	.456	0.49	.486	0.83	.364	0.33 (-0.48 to 1.14)	NaN (NaN to NaN)
WHOQoL-BREF (physical)	45.75 (14.79)	49.18 (21.77)	48.81 (17.13)	48.57 (8.22)	42.36 (13.96)	41.13 (12.76)	44.13 (15.68)	45.71 (25.63)	1.36	.246	1.13	.289	0.00	.981	0.59 (-0.25 to 1.43)	-0.17 (-1.38 to 1.05)
WHOQoL-BFREF (psych.)	49.43 (15.93)	40.99 (23.94)	41.57 (19.85)	41.67 (10.62)	46.6 (15.67)	38.23 (14.86)	43.4 (15.92)	46.17 (23.36)	0.81	.369	3.03	.084	1.08	.300	0.19 (-0.63 to 1.01)	0.08 (-1.13 to 1.3)
WHOQoL-BREF (social)	41.95 (20.83)	42.59 (25.25)	39.81 (24.92)	41.67 (21.25)	46.88 (21.82)	48.96 (20.92)	54.55 (22.82)	48.15 (24.92)	1.04	.309	0.07	.794	0.49	.483	0.52 (-0.38 to 1.36)	0.12 (-1.1 to 1.34)
WHOQoL-BREF (environ.)	48.46 (15.87)	52.78 (19.3)	48.26 (22.38)	52.5 (5.59)	46.69 (14.45)	49.77 (13.11)	56.01 (13.69)	54.81 (19.98)	0.29	.589	4.01	.047	1.13	.289	0.65 (-0.06 to 1.49)	0.48 (-1.16 to 1.71)

Note. TAU = treatment-as-usual; BL = baseline, Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; *M* = mean; *SD* = standard deviation; ES = effect size; *d* = Cohen's *d*; CI = confidence interval; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Figure 11

Comparison of primary and secondary outcome variables across all four measurement time points within the PP sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; BL = baseline; Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL World Health Organization Quality of Life questionnaire, brief version, item 1 + 2. Error bars represent ± 1 standard error.

Table 8

Response and remission rates for both depression-specific outcomes at time of post-intervention, follow-up 1 and follow-up 2 within the PP sample

Outcome	N (%) SCCM Post	N (%) TAU Post	N (%) SCCM FU1	N (%) TAU FU1	N (%) SCCM FU2	N (%) TAU FU2	Post *z* Group	Post *p* Group	Post ES Treat-ment	FU1 *z* Group	FU1 *p* Group	FU1 ES Treat-ment	FU2 *z* Group	FU2 *p* Group	FU2 ES Treat-ment
Response PHQ	6 (20)	1 (2.17)	3 (10)	2 (4.35)	1 (3.33)	1 (2.17)	2.155	0.031	10.96 (1.73 to 213.57)	1.352	0.176	3.83 (0.55 to 33.02)	0.339	0.734	1.67 (0.06 to 47.73)
Remission PHQ	3 (10)	NA (NA)	NA (NA)	1 (2.17)	NA (NA)	1 (2.17)									
Response MADRS	10 (33.33)	6 (13.04)	3 (10)	3 (6.52)	3 (10)	1 (2.17)	2.072	0.038	3.68 (1.09 to 13.74)	0.985	0.325	2.44 (0.39 to 15.56)	1.631	0.103	8.25 (0.8 to 197.09)
Remission MADRS	8 (26.67)	2 (4.35)	2 (6.67)	3 (6.52)	NA (NA)	1 (2.17)	2.593	0.01	11.85 (2.17 to 102.91)	0.387	0.699	1.47 (0.17 to 10.25)	0	1	

Note. SCCM = Empowerment intervention within the Stepped and Collaborative Care Model; TAU = treatment-as-usual; Post = post-intervention; FU1 = 24-week follow-up; FU2 = 48-week follow-up; ES = effect size; CI = confidence interval; BL = baseline; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale. Response was defined as a decrease in the score (indicating less depression) of 50% or more from baseline to endpoint. Remission was defined as a PHQ-9 score < 5 or MÅDRS score < 10.

4. Discussion

The aim of this study was to evaluate the efficacy of the newly developed Empowerment intervention within the multicenter MEHIRA trial. The following paragraphs summarize the results of my thesis and discuss its strengths and limitations. Practical implications of the present work are pointed out and an outlook on future research projects in the context of transcultural group therapy is given.

4.1 Summary

The findings of my thesis point towards the efficacy of the Empowerment intervention compared to TAU in a sample of refugees and asylum seekers with moderate depressive symptoms. Group participation led to significantly stronger reductions in depressive symptomatology assessed in self-ratings (PHQ-9) and clinical interviews (MÅDRS) compared to TAU. For both depression-specific scales, within-intervention effect sizes were moderate and response rates were significantly higher in the intervention group compared to the control group. These findings are comparable to a moderate effect of a group intervention for refugees with anxiety symptoms using stabilization techniques (Zehetmair et al., 2018), and small to moderate effects of a transdiagnostic interpreter-based group intervention targeting emotion regulation deficits in refugees (Koch et al., 2017). The effects of the Empowerment intervention are exceeded by those of a culturally-adapted cognitive-behavioral therapy plus problem solving (CA-CBT+) delivered to Afghan refugees with PTSD, depressive disorders, anxiety disorders, or somatoform disorders (Kananian et al., 2020). CA-CBT+ led to major improvements in general psychopathological distress and thus raises the questions of an incremental efficacy of problem solving training in the treatment of displaced populations (Kananian et al., 2020).

A significant effect of the Empowerment intervention on emotional distress was found in the PP sample but not in the ITT sample, with PP group participants showing a significant reduction on RHS-15 scores compared to the control group. Participating in the Empowerment group therapy furthermore increased patients' resilience, assessed by the BRS, compared to the control group within the ITT sample. Resilience has been found to mediate associations between post-migration variables (e.g. employment status, experiences of discrimination) and depression in refugees (Hosseini, 2017). Consequently, approaches to the treatment if posttraumatic stress disorders in refugees have recently been expanded to include the concept of resilience (Schouler-Ocak et al., 2019). In a resilience-oriented intervention, biological (e.g.

exercise, relaxation), psychological (e.g. positive emotions and humor, cognitive flexibility, social (e.g. reconnecting the family, enhancing social ties), cultural (e.g. cultural identity, language), and spiritual (e.g. religious practices, prayer) resilience resources are identified and promoted (Laban, 2015). While the Empowerment approach addresses some of these resilience factors (e.g. relaxation), it could be helpful to anchor the resilience approach even more by targeting resources such as cultural identity or religion. Many migrants classify themselves by religion as opposed to ethnicity, which suggests religion to be a core aspect of identity for many migrant groups, and identifies spirituality as resource to be considered in transcultural psychotherapy (Haines, 2007).

Self-rated levels of emotional and behavioral problems, assessed by the SDQ, decreased in group participants but not in the control group, in both ITT and PP samples. This finding suggests group participation to promote prosocial behavior and reduce behavioral and relationship problems. A possible driver of the effect of group participation on behavioral problems could be the group context itself. The majority of our patients had experiences with autocratic structures, dictatorial systems, and betrayal in their home country or during their flight. As a result, the majority of patients were hesitant prior to the beginning of therapy as to whether they could open up and build trust in a group setting. In the course of therapy, however, a sense of community often arose among the group members, with participants building trusting relationships with one another. Group therapy could thus be a particularly suitable form of therapy for displaced populations, strengthening feelings of cohesion, community, and support.

Participation in the Empowerment intervention had no influence on participants' self-efficacy, assessed by the GSE. The concept of self-efficacy is of interest in the context of forced migration, as refugees suffer many experiences that can compromise self-efficacy. Yet, an individual's perceived capacity to manage stressful life events is an important factor underlying psychological well-being (Benight & Bandura, 2004; Morina et al., 2018). Up until now, self-efficacy of refugees could only successfully be influenced within an experimental design, with torture survivors reporting less distress and negative affect when viewing trauma-related images after retrieving mastery-related autobiographical memories (Morina et al., 2018). Future research could investigate whether activating mastery-related autobiographical memory content within a therapeutic context has positive effects on patients' self-efficacy.

Contrary to my hypotheses, the intervention had influence on participants' physical, social, and environmental life quality, while psychological life quality showed a significant decrease from baseline to time of post-intervention in both study groups. These findings are consistent with the lack of an effect of interdisciplinary mental health treatments on refugees'

life quality (Leiler et al., 2019), and indicate an ongoing burden in the lives of refugees, on which psychological interventions may have little to no influence. The majority of participants in the present study had a temporary residence permit and were residing in refugee housing facilities. Both factors shape a context that is characterized by low levels of meaningful daily activities, and high levels of uncertainty, unpredictability, and passivity (Leiler et al., 2019). With the WHOQoL-BREF assessing psychological life quality with items such as “To what extend to you feel your life to be meaningful?”, the decrease in psychological life quality can potentially be an indicator of the long-term negative effects of the above-mentioned living conditions.

In the present study, follow-up data were collected 24 and 48 weeks after baseline assessment. Follow-up analyses found main effects of time for both PHQ-9 and MÅDRS sums cores and a significant interaction of group condition and time for PHQ-9 sum scores, indicating a further reduction in depressive symptoms in group participants in the weeks following the end of therapy. Against the background of other longitudinal studies on psychotherapy in refugees finding a dilution of the effects in the follow-up periods, the continuous improvement on both PHQ-9 and MÅDRS sum scores is particularly gratifying (Kananian et al., 2020). Yet, stressors embedded within the post-intervention environment need to be considered when designing interventions for displaced populations, as these can counteract positive therapy outcomes. Loss of social support, perpetual burdens from the aftermath of traumatic experiences, and the continuing concern about relatives who remained in the country of origin are persistent factors that represent serious burdens for refugees even after the end of therapy. Conducting follow-up group sessions when implementing interventions for displaced populations could counteract these effects, further consolidate established social ties between group participants and promote long-term stabilization. Such follow-up sessions were repeatedly asked for by our patients but could not be implemented while the study was carried out.

The evidence provided for the efficacy of the Empowerment intervention raises the question of what influence the use of language mediators had on the outcome of the therapy. Including an interpreter in the psychotherapeutic setting represents a significant alteration to the traditionally dyadic therapy relationship and means an additional expenditure in terms of organization and costs (Miller et al., 2005). Yet, without interpreters, far fewer patients would have had access to the Empowerment intervention, as psychotherapy without language mediation would have only been possible for a fraction of all patients included in the study. Within the group therapy context, language mediators enabled our patients to articulate their

own experiences in their mother tongues, therefore empowering them to actively participate in the therapeutic process. Working with interpreters also turned out to be beneficial for me as a therapist: the process of language translation slowed down the dynamics of the conversation and made it easier for me to concentrate on non-verbal behavior and to plan subsequent interventions. These experiences encourage me to advocate for an increased use of language mediators in mental health care services for refugees. I even assume that the use of interpreters in standard care would substantially improve the treatment of refugee patients and would ultimately even be more cost-effective.

4.2 Strengths and limitations

At this point, I would like to point out the key strengths of the presented dissertation project. First, the Empowerment intervention is, to the best if my knowledge, the first manual that equips German-speaking therapists with the knowledge to treat refugees with depression within a manualized approach. The high practical relevance that the project has for the health care of refugees is a central strength of my work. A second strength is the intervention's adaptation to the specific cultural background of displaced persons. The Empowerment intervention includes idioms of distress from Eastern cultures and is therefore sensitive to patients' culturally pervasive norms, values, and health concerns. Differences in the way Eastern and Western cultures experience and express distress are discussed and group participants are explicitly encouraged to share culturally rooted explanations of depressive disorders. Patients are then offered a Western-based bio-psychosocial explanatory model as a further alternative and not as the only correct explanation for their illness. These adaptations may have substantially contributed to the efficacy of the intervention, by bridging the gap between cultural values of refugees and interventions delivered in a Western treatment setting. Third, the efficacy of the Empowerment intervention was examined by using a large sample of refugees within a randomized controlled multicenter trial. A fourth strength is the standardized approach of the trial, achieved through high adherence to the treatment manual and the use of standardized interviews and outcome measures. Finally, follow-up examinations were conducted after 24 and 48 weeks. The dynamics of migration processes and the resulting high mobility of refugee populations can make it difficult to identify patients for follow-up measurements (Gwozdziewycz & Mehl-Madrona, 2013). A longitudinal data collection, as in the presented study, is therefore an exception in refugee studies and a strength of the present work.

On the other hand, my thesis has several limitations that are important to discuss. First, drop-out rates in the intervention group were significantly higher compared to the control group, both at time of post-intervention, and at 24-week follow-up. While refugees and asylum seekers represent a mobile and highly vulnerable group, where high dropout rates are to be expected (Semmlinger & Ehring, 2020), the difference in drop out between both study groups is a limitation of the present work. One reason for the high dropout rate in the intervention group was the fact that 38% of subjects had not participated in the Empowerment intervention as planned. Of those participants that had not received the intervention as indicated, all but one dropped out of the study by the time of post-intervention. There might have been several reasons why participants did not receive treatment: 1) having second thoughts about group therapy, e.g. the idea that the treatment offered may not sufficiently address daily demands (e.g. poor living conditions), 2) the group not taking place due to an insufficient number of participants at the respective time point, and 3) having to move due to regulatory requirements or a rejected asylum application. Strategies to prevent dropouts in refugee studies must be tailored to the specific needs of this patient group, in order to increase the quality and validity of research results and provide the best possible care for all patients. One such strategy could be the use of case management (Ogrodniczuk et al., 2005). For the duration of psychotherapy, case managers help the patient to cope with post-flight challenges (e.g. applying for asylum, looking for accommodation), which might otherwise result in treatment either not being started or being terminated prematurely. One study found dropout rates reduced by 50% when case management was implemented in addition to cognitive behavioral therapy alone (Miranda et al., 2003). A second limitation of the current study was, that our outcomes primarily represented Western mental health constructs. And whilst these scales have most often been validated across non-Western cultures, future studies should aim to capture patients' individual and culture-related view of symptoms more closely. Client-generated measures, e.g. Psychological Outcome Profiles (PSYCHLOPS), could bring added value here. PSYCHLOPS assesses patients' perspectives on experienced psychological distress by asking them to describe their main problems and how they affect them (Ashworth et al., 2004). A third limitation is that post-migration variables (e.g. changes in the asylum status), which may have influenced participants' psychological distress and overall well-being while participating in the study, were not recorded. Studies indicate that such contextual factors have a significant influence on the refugees' mental health and should thus be considered when evaluating the effectiveness of psychotherapeutic interventions (Li et al., 2016; Walther, Fuchs, et al., 2020). These findings coincide with my clinical experience, which has repeatedly shown that changes in the asylum

process, the political situation in the home country, or the well-being of relatives at home have a grave effect on refugees' psychological well-being during therapy sessions. Therefore, it would have been important to record these factors over the entire survey period to control for the extent to which changes in symptoms can be attributed solely to the treatment.

4.3 Implications

The efficacy of the Empowerment intervention on group participants' depressive symptoms, emotional distress, resilience, and behavioral problems results in a number of practical implications. The manual can be deployed in both in- and outpatient settings. Resident psychotherapists as well as psychosocial counselling centers and hospitals could implement Empowerment group therapies. A low-threshold application, for example in refugee accommodations, is also conceivable. Whether the manual is used with the help of an interpreter or not can be individually adapted to the language level of the patients. Conducting the Empowerment therapy without an interpreter reduces the duration of the individual sessions by around half. The manual can also be used for individual therapy and thus be tailored to a patient's specific needs and symptoms.

Due to the insufficient capacity for PTSD treatments for refugees, another possible application could be in the context of phase-based trauma approaches, with the aim of equipping asylum seekers with strategies for stabilization and emotion regulation prior to exposure interventions. There is evidence that substantial emotion regulation difficulties interfere with the effectiveness of first-line trauma-focused therapy in non-refugee groups (Foa et al., 1995; Forbes et al., 2008; Nickerson, 2018). These findings underscore the potential utility of phase-based interventions in which patients receive emotion regulation skills training prior to embarking on exposure-based interventions (Cloitre et al., 2002; Nickerson, 2018). The Empowerment manual may represent such a first-phase intervention and could equip patients with behavioral activation strategies, stress management skills, and emotion regulation competencies before receiving trauma-specific interventions. Such use could furthermore help to close the gap in care that inevitably arises while refugees wait for one of the very limited trauma-specific treatment spots available. This appears particularly useful because the precarious conditions in the host country, insecurities about one's own residence status, and the resulting fear of deportation can lead to substantial psychological distress and a perversion of symptoms, while waiting for a trauma-specific treatment to start (Morina & Nickerson, 2018).

An application in the context of humanitarian aid in crisis areas would also be conceivable. Possible deployment sites for the Empowerment intervention are refugee camps,

in which the residents are confronted with precarious circumstances such as diseases, violence, deprivation of food and water, and inadequate hygienic conditions. Several studies have investigated refugees' mental health in refugee camps near the borders of their countries of origin and found a high psychological morbidity, both among refugees who recently arrived at the camp, and among those who had lived there for several months (Acarturk et al., 2018; Poole et al., 2018). In such a context, the Empowerment manual could represent a low-threshold intervention for the treatment of affective and stress-related symptoms on site, but could also be applied in the context of prevention.

4.4 Future perspectives

In the past decade, prevalence rates of mental disorders in the context of forced displacement, and resulting patterns of help-seeking behavior in migrant populations were the two central topics in the field of migration mental health research (Laban & van Dijk, 2013; Schouler-Ocak et al., 2019). Research in the coming years should focus on developing disorder-specific, resource-oriented interventions, that can be flexibly adapted to the dynamic situation of global migration movements. With a specific look at the Empowerment intervention, this implies future studies to further examine the intervention's effectiveness in refugees with other cultural backgrounds and in other treatment settings. In addition, it would be interesting to collect data on the effectiveness of the manual with native-speaking therapists and mixed-gender groups. Although the manual has already been successfully offered for mixed groups and carried out by native-speaking therapists, these variables have not yet been systematically recorded and evaluated within the scope of the present study.

Recently, the Empowerment manual has been implemented for the first time in a video-based setting, raising the question whether video-assisted group therapy can improve the care of refugees with depressive disorder. Studies on the effectiveness and acceptance of video-based psychotherapy, compared to conventional psychotherapy, indicate a comparable clinical effectiveness, treatment adherence, and patient satisfaction in both settings (Carlbring et al., 2018; Fletcher et al., 2018). Video-based psychotherapy has already been successfully implemented for war veterans with PTSD (Luxton et al., 2015) and patients with depression from difficult socio-economic conditions (Choi et al., 2014). One of the main advantages of internet-based treatments is location independence. For refugees living in decentralized accommodations or displaced persons with frequent location changes, video-assisted treatments could represent a substantial improvement in care. In addition, internet-based treatments offer a higher degree of privacy and can therefore bypass stigmatization as one of the central barriers

to accessing care for forcibly displaced people. Video-assisted psychotherapy could thus improve access to psychotherapeutic care for refugees and asylum seekers and should be investigated in future studies.

Against the background of eclectic causes of flight and great differences in the type and number of post-migration stressors refugees experience, the identification of patient- and context-related factors affecting treatment response might be one of particular relevance when investigating the efficacy of treatments. Identifying possible predictors of treatment outcomes, especially factors in the post-migration environment, could enhance successful treatment rates and eventually influence political decision-making processes. Future research should also shed the light on factors of individual perseverance in the face of adversity (Wintrob, 2013). What are the factors that make some people emerge stronger from experiences of forced migration than others? What roles do spirituality, purpose, and family support play in recovering from experiences of displacement? If we succeed in identifying protective factors on refugees' mental health and well-being, we can in turn use and promote them in therapeutic interventions. This could result in a conceptual framework of transcultural psychotherapy, that identifies resources and protective factors, and integrates them into the individual treatment plan. (Schouler-Ocak et al., 2019; Wintrob, 2013).

Future studies of transcultural psychotherapy research should also address the question of how therapy can be implemented when the practitioner and patient do not speak the same language. The use of interpreters in mental health care settings is one of the most prominent, yet understudied, strategies to improve language access for migrants. Interpreting in a psychotherapeutic setting with refugees differs from interpreting for non-refugee patients. Refugees have often experienced multiple losses, e.g. social networks, personal possessions and valued social roles, which often results in therapeutic processes that are emotionally very intense, and involve the challenging task of interpreting stories of trauma, separation, and loss that may echo similar experiences in the interpreter's life (Miller et al., 2005). Future studies should investigate the emotional impact of interpreting on the interpreter and the impact of the interpreters on both the therapeutic process and intervention outcome (for an overview, see Fennig & Denov, 2020). A further question is, whether interpreters contribute to a more effective use of mental health care supply structures and thus to lower health economic costs. Addressing these research questions is an important first step, so that a systematic assumption of costs for interpreting services can arise in the future.

4.5 Conclusion

In conclusion, this thesis presents my work in the development and evaluation of the culturally sensitive Empowerment group intervention within the multicenter MEHIRA trial. The data presented suggests the Empowerment intervention to be effective in reducing depressive symptoms, emotional distress, and behavioral problems, while promoting resilience, in a sample of refugees and asylum seekers with moderate depressive symptoms.

The number of migrants, refugees, and asylum seekers worldwide is expected to rise over the coming decades, putting high numbers of people at risk of inhumane treatment, precarious living conditions, and mental illnesses (Schouler-Ocak et al., 2016). According to the Universal Declaration of Human Rights ”Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing, medical care, and necessary social services” (United Nations, 1984). Transcultural psychiatry is therefore inevitably linked to human rights, and mental health care systems will have to open and adapt their services to increasingly heterogeneous populations with different concepts of health and disease. Cultural competence has to become an integral part of good clinical practice, so that we can provide patients with effective and high-quality treatments, regardless of their own, and our, cultural background. This task is accompanied by the shared responsibility to draw attention to the stereotypes that we as mental health care workers may have of asylum seekers and refugees on an individual, institutional, and social level. Stereotypes may disturb processes of acculturation and integration and entrench terms such as “we” and “they” within our linguistic usage. Our wording then determines our individual and societal actions, which may in turn influence political actions. I hope that the present work makes a small contribution to a transcultural opening of psychotherapeutic care structures for refugees with depressive disorders, so that the high numbers of persecuted and displaced persons can receive the help they need to recover from the adversities they have experienced.

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Appendix A

Appendix A presents the positive vote on ethics for the MEHIRA project issued by the ethics committee of the Ludwig-Maximilians-University of Munich.

LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

ETHIKKOMMISSION BEI DER LMU MÜNCHEN

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31.01.2018 Hb/ck

Projekt Nr: **17-883** (bitte bei Schriftwechsel angeben)

Beratung nach Fakultätsrecht

Studientitel: Mental Health in Refugees and Asylum Seekers: Gestuftes Versorgungsmodell zur Förderung der mentalen Gesundheit von Flüchtlingen (MEHIRA)
Antragsteller: Prof. Dr. Frank Padberg, Klinikum der Universität München , Klinik für Psychiatrie und Psychotherapie, Nußbaumstr. 7, 80336 München
Untersucher: Prof. Dr. Peter Falkai, Klinikum der Universität München , Klinik für Psychiatrie und Psychotherapie, Nußbaumstr. 7, 80336 München

Sehr geehrter Herr Prof. Padberg,

der Antrag zur o.g. Studie wurde auf der Basis der vorgelegten Unterlagen und Informationen entsprechend § 15 der Berufsordnung und des Fakultätsrechts beraten.

Die Ethikkommission (EK) erhebt keine Einwände gegen die Durchführung der Studie.

Allgemeine Hinweise:

- Änderungen im Verlauf der Studie sind der EK zur erneuten Prüfung vorzulegen.
- Schwerwiegende unerwartete studienabhängige Ereignisse sind der EK mitzuteilen.
- Das Ende der Studie ist anzuzeigen und das Ergebnis vorzulegen.
- Die ärztliche und juristische Verantwortung bei der Durchführung der Studie verbleibt uneingeschränkt bei Ihnen und Ihren Mitarbeitern.

Die Ethikkommission wünscht Ihnen für Ihr Vorhaben viel Erfolg.

Mit freundlichen Grüßen

Prof. Dr. W. Eisenmenger
Vorsitzender der Ethikkommission

Appendix B

Appendix B presents all questionnaires included as primary and secondary outcomes in the dissertation project. The PHQ-9, assessing self-rated depressive symptoms, was included as a primary outcome (Kroenke et al., 2001). Secondary outcomes were the MÅDRS, assessing clinician-rated depressive symptoms (Montgomery & Åsberg, 1979), the RHS-15, measuring emotional distress (Hollifield et al., 2013), the BRS, assessing resilience (Smith et al., 2008), the GSE, measuring self-efficacy (Schwarzer & Jerusalem, 2010), the SDQ, assessing behavioral problems (Muris et al., 2003), and the WHOQoL-BREF, assessing life quality (WHOQoL Group, 1998a). All self-rating instruments were provided in English, Dari/Farsi, and Arabic. If a participant could not read sufficiently well, the questionnaires were filled out with the help of a professionally trained interpreter. Figures B1 – B1 present the English version of each scale.

Figure B1

English version of the P assessing self-rated depressive symptoms

Instructions

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(Use " ✔ to indicate your answer)

	Not at all	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

= Total Score: _____.

If you checked off any problems, how difficult they have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
○	○	○	○

Figure B2

English version of the Montgomery Asberg Depression Rating Scale, measuring clinician-rated depressive symptoms

Instructions

The ratings should be based on a clinical interview moving from broadly phrased questions about symptoms to more detailed ones which allow a precise rating of severity. The rater must decide whether the rating lies on the defined scale steps (0, 2, 4, 6) or between them (1, 3, 5). It is important to remember that it is only rare 0 occasions that a depressed patient is encountered who cannot be rated 1 on the items in the scale. If definite answers cannot be elicited from the 2 patients, all relevant clues as well as information from other sources 3 should be used as a basis for the rating in line with customary clinical 4 practice. This scale may be used for any time interval between ratings, be it weekly or otherwise, but this must be recorded.

1. **Apparent Sadness** Representing despondency, gloom and despair, (more than just ordinary transient low spirits) reflected in speech, facial expression, and posture. Rate on depth and inability to brighten up.	**0**	No sadness.
	1	
	2	Looks dispirited but does brighten up without difficulty.
	3	
	4	Appears sad and unhappy most of the time.
	5	
	6	Looks miserable all the time. Extremely despondent.
2. **Reported Sadness** Representing reports of depressed mood, regardless of whether it is reflected in appearance or not. Includes low spirits, despondency or feeling of being beyond help without hope. Rate according to intensity, duration and the extent to which the mood is reported to be influenced by events.	**0**	Occasional sadness in keeping with the circumstances.
	1	
	2	Sad or low but brightens up without difficulty.
	3	
	4	Pervasive feelings of sadness or gloominess. The mood is still influences by external circumstances.
	5	
	6	Continuous or unvarying sadness, misery or despondency.
3. **Inner Tension** Representing feelings of ill-defined discomfort, edginess, inner turmoil mounting to either panic, dread or anguish. Rate according to intensity, frequency, duration and the extent of reassurance called for.	**0**	Placid. Only reflecting inner tension.
	1	
	2	Occasional feelings of edginess and ill-defined discomfort.
	3	
	4	Continuous feelings of inner tension or intermittent panic which the patient can only master with some difficulty.
	5	
	6	Unrelenting dread or anguish. Overwhelming panic.

4. **Reduced Sleep** Representing the experience of reduced duration or depth of sleep compared to the subject's own normal pattern when well.	**0**	Sleeps as usual.
	1	
	2	Slight difficulty dropping off to sleep or slightly reduced light or fitful sleep.
	3	
	4	Sleep reduced or broken by at least two hours.
	5	
	6	Less than two or three hours sleep.
5. **Reduced Appetite** Representing the feeling of loss of appetite compared with when well. Rate by loss of desire for food or the need to force oneself to eat.	**0**	Normal or increased appetite.
	1	
	2	Slightly reduced appetite.
	3	
	4	No appetite. Food is tasteless.
	5	
	6	Needs persuasion to eat.
6**. Concentration Difficulties** Representing difficulties in collecting one's thoughts mounting to incapacitating lack of concentration. Rate according to intensity, frequency, and degree of incapacity produced.	**0**	No difficulties in concentrating.
	1	
	2	Occasional difficulties in collecting one's thoughts.
	3	
	4	Difficulty in concentrating and sustaining thought which reduces ability to read or hold conversation.
	5	
	6	Unable to read or conserve without great initiative.
7. **Lassitude** Representing a difficulty getting started or slowness initiating and performing everyday activities.	**0**	Hardly no difficulty in getting started. No sluggishness.
	1	
	2	Difficulty in starting activities.
	3	
	4	Difficulties in starting simple routine activities which are carried out with effort.
	5	
	6	Complete lassitude. Unable to do anything without help.

8. **Inability to Feel** Representing the subjective experience of reduced interest in the surroundings, or activities that normally give pleasure. The ability to react with adequate emotion to circumstances or people is reduced.	**0**	Normal interest in the surroundings and in other people.
	1	
	2	Reduced ability to enjoy usual interest.
	3	
	4	Loss of interest in surroundings. Loss of feelings for friends and acquaintances.
	5	
	6	The experience of being emotionally paralyzed, inability to feel anger, grief or pleasure and a complete or even painful failure to feel for close relatives and friends.
9. **Pessimistic Thoughts** Representing thoughts of guilt. Inferiority, self-reproach, sinfulness, remorse and ruin.	**0**	No pessimistic thoughts.
	1	
	2	Fluctuating ideas of failure, self-reproach or self-depreciation.
	3	
	4	Persistent self-accusations, or definite but still rational ideas of guilt or sin. Increasingly pessimistic about the future.
	5	
	6	Delusions of ruin, remorse or unredeemable sin. Self-accusations which are absurd and unshakeable.
10. **Suicidal Thoughts** Representing the feeling that life is not worth living, that a natural death would be welcome, suicidal thoughts, and the preparations for suicide. Suicidal attempts should not in themselves influence the rating.	**0**	Enjoys life or takes it as it comes.
	1	
	2	Weary of life. Only fleeting suicidal thoughts.
	3	
	4	Probably better off dead. Suicidal thoughts are common, and suicide is considered as a possible solution, but without specific plans or intention.
	5	
	6	Explicit plans for suicide when there is an opportunity. Active preparations for suicide.

Figure B3

English version of the Refugee Health Screener-15, measuring emotional distress in refugee population

Instructions:

Using the scale beside each symptom, please indicate the degree to which the symptom has been bothersome to you over the past month. Place a mark in the appropriate column. If the symptom has not been bothersome to you during the past month, circle "NOT AT ALL."

Symptoms	Not at all	A little bit	Mode rately	Quite a bit	Extre mely
1. Muscle, bone, joint pains	0	1	2	3	4
2. Feeling down, sad, or blue most of the time	0	1	2	3	4
3. Too much thinking or too many thoughts	0	1	2	3	4
4. Feeling helpless	0	1	2	3	4
5. Suddenly scared for no reason	0	1	2	3	4
6. Faintness, dizziness, or weakness	0	1	2	3	4
7. Nervousness or shakiness inside	0	1	2	3	4
8. Feeling restless, can't sit still	0	1	2	3	4
9. Crying easily	0	1	2	3	4

The following symptoms may be related to traumatic experiences during war and migration. How much in the past month have you:

10. Had the experience of reliving the trauma; acting or feeling as if it were happening again?	0	1	2	3	4
11. Been having PHYSICAL reactions (for example, break out in a sweat, heart beats fast) when reminded of the trauma?	0	1	2	3	4
12. Felt emotionally numb (for example, feel sad but can't cry, unable to have loving feelings)?	0	1	2	3	4
13. Been jumpier, more easily startled (for example, when someone walks up behind you)?	0	1	2	3	4

14. Generally over your life, do you feel that you are:

Able to handle (cope with) anything that comes your way	0
Able to handle (cope with) most things that come your way	1
Able to handle (cope with) some things, but not able to cope with other things	2
Unable to cope with most things	3
Unable to cope with anything	4

Figure B4

English version of the Brief Resilience Scale assessing self-reported resilience

Please respond to each item by marking <u>one box per row.</u>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
BRS 1	I tend to bounce back quickly after hard times	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 2	I have a hard time making it through stressful events.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
BRS 3	It does not take me long to recover from a stressful event.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 4	It is hard for me to snap back when something bad happens.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1
BRS 5	I usually come through difficult times with little trouble.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
BRS 6	I tend to take a long time to get over set-backs in my life.	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1

Figure B5

English version of the General Self-Efficacy Scale assessing self-rated self-efficacy

	Not at all true	Hardly true	Moderately true	Exactly true
1. I can always manage to solve difficult problems if I try hard enough	☐	☐	☐	☐
2. If someone opposes me, I can find the means and ways to get what I want.	☐	☐	☐	☐
3. It is easy for me to stick to my aims and accomplish my goals.	☐	☐	☐	☐
4. I am confident that I could deal efficiently with unexpected events.	☐	☐	☐	☐
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	☐	☐	☐	☐
6. I can solve most problems if I invest the necessary effort.	☐	☐	☐	☐
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	☐	☐	☐	☐
8. When I am confronted with a problem, I can usually find several solutions.	☐	☐	☐	☐
9. If I am in trouble, I can usually think of a solution	☐	☐	☐	☐
10. I can usually handle whatever comes my way.	☐	☐	☐	☐

Figure B6

English version of the Strengths and Difficulties Questionnaire assessing self-rated behavioral and conduct problems

Instructions

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings			
I am restless, I find it hard to sit down for long			
I get a lot of headaches, stomach-aches or sickness			
I usually share with others, for example food or drink			
I get very angry and often lose my temper			
I would rather be alone than with other people			
I am generally willing to do what other want			
I worry a lot			
I am helpful if someone is hurt, upset or feeling ill			
I am constantly fidgeting or squirming			
I have at least one good friend			
I fight a lot. I can make other people do what I want			
I am often unhappy, depressed or tearful			
Other people generally like me			
I am easily distracted, I find it difficult to concentrate			
I am nervous in new situations. I easily lose confidence			
I am kind to children			
I am often accused of lying or cheating			
Other people pick on me or bully me			
I often offer to help others (family members, friends, colleagues)			
I think before I do things			
I take things that are not mine from home, work or elsewhere			
I get along better with older people than with people my own age			
I have many fears, I am easily scared			
I finish the work I'm doing. My attention is good			

Figure B7

English version of the World Health Organization Quality of Life-BREF Questionnaire assessing participants' life quality

Instructions

Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

	Very poor	Poor	Neither poor nor good	Good	Very good
1. How would you rate your quality of life?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
2. How satisfied are you with your health?	1	2	3	4	5

	Not at all	A little	A moderate amount	Very much	An extreme amount
3. To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

	Not at all	A little	A moderate amount	Very much	An extreme amount
4. How much do you need any medical treatment to function in your daily life?	1	2	3	4	5

	Not at all	A little	A moderate amount	Very much	An extreme amount
5. How much do you enjoy life?	1	2	3	4	5

	Not at all	A little	A moderate amount	Very much	An extreme amount
6. To what extent do you feel your life to be meaningful?	1	2	3	4	5

	Not at all	Slightly	A moderate amount	Very much	Extremely
7. How well are you able to concentrate?	1	2	3	4	5

	Not at all	Slightly	A moderate amount	Very much	Extremely
8. How safe do you feel in daily life?	1	2	3	4	5

	Not at all	Slightly	A moderate amount	Very much	Extremely
9. How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

	Not at all	A little	Moderately	Mostly	Completely
10. Do you have enough energy for everyday life?	1	2	3	4	5

	Not at all	A little	Moderately	Mostly	Completely
11. Are you able to accept your bodily appearance?	1	2	3	4	5

	Not at all	A little	Moderately	Mostly	Completely
12. Have you enough money to meet your needs?	1	2	3	4	5

	Not at all	A little	Moderately	Mostly	Completely
13. How available to you is the information that you need in your day-to-day life?	1	2	3	4	5

	Not at all	A little	Moderately	Mostly	Completely
14. To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

	Very poor	Poor	Neither poor nor well	Well	Very well
15. How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16. How satisfied are you with your sleep?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
17. How satisfied are you with your ability to perform daily activities?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
18. How satisfied are you with your capacity for work?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
19. How satisfied are you with yourself?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
20. How satisfied are you with your personal relationships?	1	2	3	4	5

	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
21. How satisfied are you with your sex life?	1	2	3	4	5
	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
22. How satisfied are you with the support you get from your friends?	1	2	3	4	5
	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
23. How satisfied are you with the condition of your living place?	1	2	3	4	5
	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
24. How satisfied are you with your access to health services?	1	2	3	4	5
	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
25. How satisfied are you with your mode of transportation?	1	2	3	4	5
	Very satisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
26. How often do you have negative feelings, such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Did someone help you to fill out this form? Yes No
(Please circle Yes or No)

Appendix C

Table C1

Post-hoc comparisons of all primary and secondary outcomes within the ITT sample

Outcome	SCCM Slope Tx Phase	TAU Slope Tx Phase	SCCM Slope FU1 Phase	TAU Slope FU1 Phase	SCCM Slope FU2 Phase	TAU Slope FU2 Phase	df Int Tx	Slope Int Tx	*t* Int Tx	*p* Int Tx	Slope Int FU1	df Int FU1	*t* Int FU1	*p* Int FU1	SLope Int FU2	df Int FU2	*t* Int FU2	*p* Int FU2
PHQ-9	-2.57 (-4.1 to -1.04)	1.06 (-0.38 to 2.49)	-0.51 (-2.75 to 1.73)	-2.55 (-4.37 to -0.74)	-2.71 (-5.44 to 0.02)	-2.22 (-4.7 to 0.25)	216.37	-3.63 (-5.72 to -1.53)	-3.39	.001	2.04 (-0.84 to 4.93)	218.84	1.39	.166	-0.49 (-4.17 to 3.19)	224.69	-0.26	.794
MÅDRS	-7.26 (-10.38 to -4.15)	-1.41 (-4.24 to 1.41)	0.38 (-4.02 to 4.78)	-2.36 (-5.87 to 1.15)	0.18 (-5.08 to 5.44)	-2.23 (-6.96 to 2.5)	202.46	-5.85 (-10.06 to -1.64)	-2.72	.007	2.74 (-2.88 to 8.37)	199.88	0.95	.341	2.41 (-4.64 to 9.45)	203.14	0.67	.504
RHS-15	-5.55 (-8.83 to -2.26)	-1.38 (-4.44 to 1.67)	-1.35 (-6.16 to 3.46)	0.61 (-3.31 to 4.53)	0.81 (-5.03 to 6.66)	-4.28 (-9.59 to 1.02)	189.40	-4.16 (-8.65 to 0.32)	-1.82	.071	-1.96 (-8.16 to 4.23)	188.27	-0.62	.536	5.1 (-2.78 to 12.97)	189.91	1.27	.206
BRS	0.22 (-0.01 to 0.45)	-0.12 (-0.34 to 0.09)	-0.2 (-0.54 to 0.14)	0.13 (-0.13 to 0.4)	0.16 (-0.27 to 0.6)	0.17 (-0.2 to 0.54)	165.90	0.35 (0.04 to 0.66)	2.18	.030	-0.34 (-0.77 to 0.09)	167.70	-1.53	.127	-0.01 (-0.57 to 0.56)	166.81	-0.02	.984
GSE	-1.35 (-3.41 to 0.71)	-1.46 (-3.37 to 0.45)	-2.11 (-5.21 to 0.98)	0.77 (-1.62 to 3.16)	0.48 (-3.44 to 4.4)	2.25 (-1.08 to 5.57)	146.02	0.11 (-2.7 to 2.92)	0.08	.938	-2.88 (-6.79 to 1.03)	144.56	-1.44	.151	-1.77 (-6.9 to 3.37)	142.59	-0.67	.501
SDQ	-3.41 (-5.72 to -1.11)	0.29 (-1.83 to 2.41)	-0.69 (-4.2 to 2.82)	0.51 (-2.14 to 3.16)			120.84	-3.7 (-6.83 to -0.57)	-2.32	.022	-1.2 (-5.6 to 3.19)	119.42	-0.54	.593				
WHOQoL-BREF (Item 1+2)	0.76 (-0.47 to 2)	-0.64 (-1.74 to 0.47)	-1.04 (-2.87 to 0.79)	0.59 (-0.77 to 1.95)	0.08 (-2.19 to 2.34)	0.15 (-1.74 to 2.03)	164.03	1.4 (-0.26 to 3.06)	1.66	.099	-1.63 (-3.91 to 0.64)	166.70	-1.41	.161	-0.07 (-3.01 to 2.87)	173.92	-0.05	.964
WHOQoL-BREF (physical)	1.41 (-3.97 to 6.79)	-1.93 (-6.79 to 2.92)	-0.06 (-8.29 to 8.17)	3.18 (-3.04 to 9.4)	-2.15 (-12.14 to 7.85)	5.93 (-2.51 to 14.37)	148.31	3.34 (-3.91 to 10.6)	0.90	.368	-3.24 (-13.55 to 7.07)	143.36	-0.62	.539	-8.08 (-21.14 to 4.99)	144.91	-1.21	.228
WHOQoL-BREF (psych.)	-8.46 (-14.8 to -2.12)	-9.33 (-15.24 to -3.43)	0.46 (-9.3 to 10.22)	3.88 (-3.4 to 11.16)	-0.07 (-11.9 to 11.76)	7.42 (-2.66 to 17.5)	170.32	0.88 (-7.79 to 9.54)	0.20	.843	-3.42 (-15.58 to 8.74)	168.83	-0.55	.582	-7.49 (-23 to 8.01)	172.82	-0.95	.345
WHOQoL-BREF (social)	-0.72 (-9.37 to 7.93)	0.27 (-7.92 to 8.46)	-2.71 (-15.85 to 10.44)	2.99 (-7.35 to 13.32)	1.28 (-15.05 to 17.6)	-4.04 (-18.45 to 10.37)	167.03	-1 (-12.91 to 10.92)	-0.16	.870	-5.69 (-22.41 to 11.03)	172.09	-0.67	.506	5.31 (-16.46 to 27.09)	176.61	0.48	.633
WHOQoL-BREF (environ.)	2.74 (-2.61 to 8.1)	3.08 (-1.84 to 8.01)	-3.78 (-12.08 to 4.52)	5.52 (-0.79 to 11.82)	-1.72 (-11.81 to 8.36)	3.05 (-5.79 to 11.89)	145.33	-0.34 (-7.62 to 6.94)	-0.09	.928	-9.3 (-19.71 to 1.11)	141.93	-1.75	.082	-4.77 (-18.17 to 8.62)	143.01	-0.7	.486

Note. SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; TAU = treatment-as-usual; FU1 = 24-week follow-up; FU2 = 48-week follow-up; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Table C2

Post-hoc comparisons of all primary and secondary outcomes within the PP sample

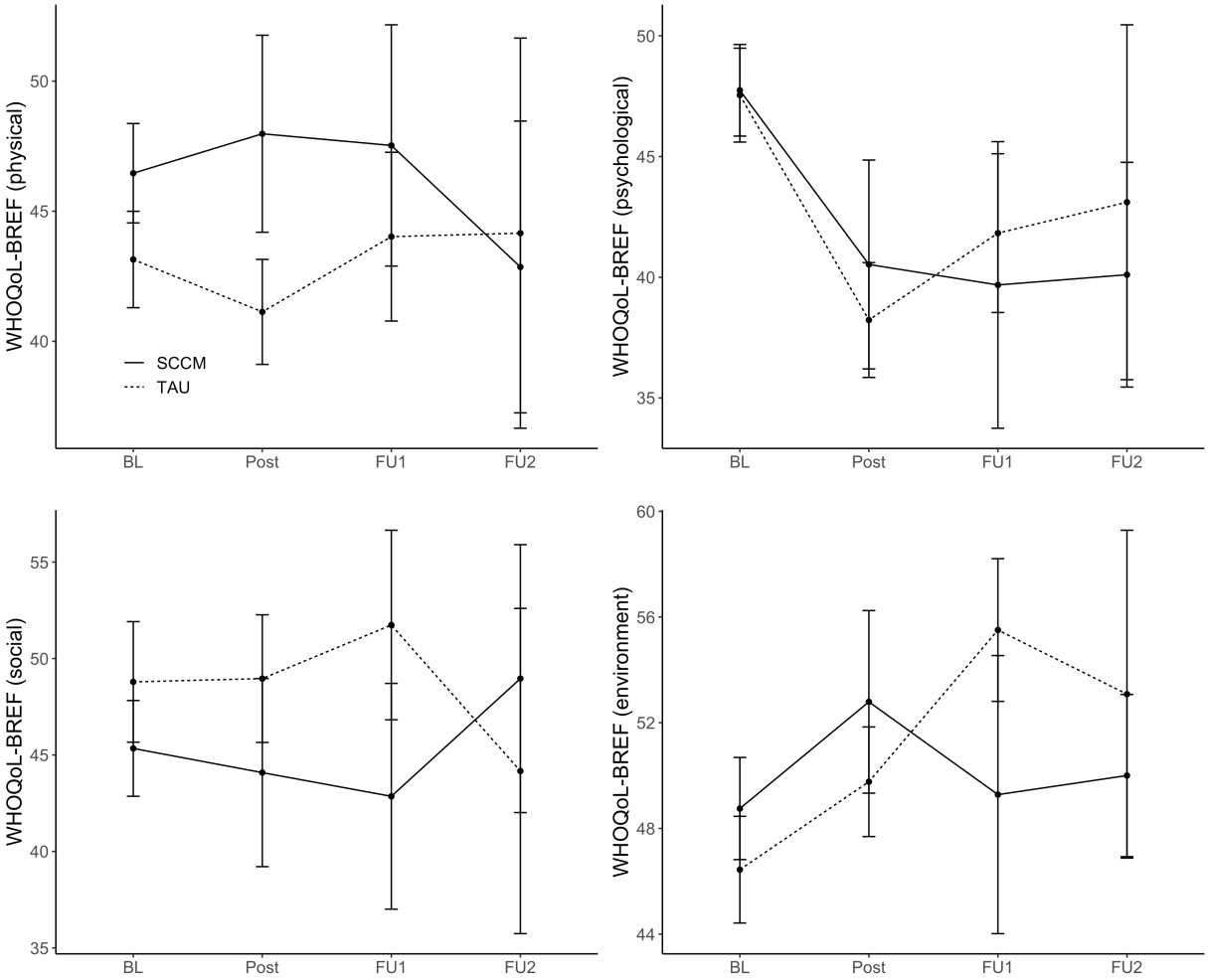
Outcome	SCCM Slope Tx Phase	TAU Slope Tx Phase	SCCM Slope FU1 Phase	TAU Slope FU1 Phase	SCCM Slope FU2 Phase	TAU Slope FU2 Phase	df Int Tx	Slope Int Tx	*t* Int Tx	*p* Int Tx	Slope Int FU1	df Int FU1	*t* Int FU1	*p* Int FU1	Slope Int FU2	df Int FU2	*t* Int FU2	*p* Int FU2
PHQ-9	-2.65 (-4.71 to -0.58)	1.14 (-0.55 to 2.82)	-1.41 (-4.25 to 1.44)	-2.64 (-4.69 to -0.59)	-3.11 (-6.64 to 0.42)	-2.51 (-5.35 to 0.34)	129.76	-3.78 (-6.45 to -1.12)	-2.78	0.006	1.23 (-2.27 to 4.74)	151.57	0.69	0.491	-0.6 (-5.11 to 3.91)	156.37	-0.26	0.794
MÅDRS	-7.14 (-10.93 to -3.34)	-1.77 (-4.84 to 1.3)	-0.26 (-5.46 to 4.95)	-2.23 (-5.88 to 1.42)	-1.33 (-7.78 to 5.11)	-2.74 (-7.72 to 2.24)	133.76	-5.37 (-10.25 to -0.49)	-2.16	0.033	1.97 (-4.37 to 8.32)	152.51	0.61	0.543	1.4 (-6.69 to 9.49)	155.93	0.34	0.735
RHS-15	-7.46 (-11.59 to -3.33)	-1.6 (-4.97 to 1.78)	-2.18 (-7.93 to 3.57)	0.65 (-3.54 to 4.85)	0.49 (-6.64 to 7.62)	-3.9 (-9.65 to 1.86)	125.73	-5.87 (-11.2 to -0.53)	-2.15	0.033	-2.84 (-9.95 to 4.27)	145.18	-0.78	0.435	4.39 (-4.73 to 13.5)	148.18	0.94	0.347
BRS	0.22 (-0.05 to 0.49)	-0.06 (-0.28 to 0.16)	-0.1 (-0.49 to 0.3)	0.09 0.18 to 0.36)	(-0.22 (-0.31 to 0.74)	0.23 (-0.15 to 0.61)	114.52	0.28 (-0.07 to 0.63)	1.59	0.114	-0.19 (-0.67 to 0.29)	131.70	-0.78	0.439	-0.01 (-0.66 to 0.64)	132.65	-0.04	0.968
GSE	-1.1 (-3.56 to 1.36)	-1.23 (-3.26 to 0.8)	-2.1 (-5.76 to 1.57)	0.86 (-1.63 to 3.34)	1.31 (-3.56 to 6.17)	2.49 (-1.02 to 6)	111.30	0.13 (-3.06 to 3.32)	0.08	0.938	-2.95 (-7.38 to 1.48)	124.70	-1.31	0.194	-1.19 (-7.18 to 4.81)	124.46	-0.39	0.699
SDQ	-4.46 (-7.08 to -1.85)	-0.02 (-2.18 to 2.14)	-1.51 (-5.37 to 2.34)	0.67 (-1.95 to 3.29)			101.76	-4.45 (-7.84 to -1.05)	-2.57	0.012	-2.18 (-6.85 to 2.48)	118.82	-0.92	0.360				
WHOQoL-BREF (Item 1+2)	0.95 (-0.52 to 2.42)	-0.7 (-1.88 to 0.48)	-0.66 (-2.81 to 1.48)	0.83 (-0.57 to 2.23)	0.33 (-2.4 to 3.07)	0.33 (-1.64 to 2.3)	115.89	1.65 (-0.23 to 3.53)	1.72	0.088	-1.49 (-4.05 to 1.06)	131.47	-1.14	0.255	0 (-3.35 to 3.36)	137.76	0	0.998
WHOQoL-BREF (physical)	3.12 (-3.23 to 9.46)	-1.63 (-6.82 to 3.56)	-1.67 (-11.29 to 7.95)	3.13 (-3.39 to 9.65)	0.02 (-12.33 to 12.36)	6.33 (-2.63 to 15.29)	107.99	4.75 (-3.45 to 12.94)	1.13	0.259	-4.8 (-16.41 to 6.8)	119.95	-0.81	0.419	-6.32 (-21.52 to 8.89)	122.1	-0.81	0.417
WHOQoL-BREF (psych.)	-8.99 (-16.82 to -1.16)	-8.69 (-15.21 to -2.17)	1.37 (-10.35 to 13.08)	5.04 (-2.74 to 12.81)	1.51 (-13.48 to 16.5)	9.13 (-1.79 to 20.04)	112.11	-0.3 (-10.48 to 9.89)	-0.06	0.955	-3.67 (-17.7 to 10.36)	129.61	-0.51	0.609	-7.62 (-26.08 to 10.85)	134.06	-0.81	0.42
WHOQoL-BREF (social)	0.58 (-10.12 to 11.28)	2.05 (-6.9 to 11)	-3.14 (-19.04 to 12.75)	5.1 (-5.77 to 15.97)	-2.57 (-22.88 to 17.74)	-1.74 (-17.08 to 13.59)	115.11	-1.47 (-15.41 to 12.48)	-0.21	0.837	-8.24 (-27.5 to 11.01)	138.57	-0.84	0.403	-0.83 (-26.28 to 24.62)	145.24	-0.06	0.949
WHOQoL-BREF (environ.)	3.43 (-2.69 to 9.56)	2.82 (-2.26 to 7.9)	-5.29 (-14.66 to 4.08)	5.38 (-1 to 11.75)	1.49 (-10.54 to 13.53)	4.53 (-4.56 to 13.63)	108.33	0.61 (-7.34 to 8.57)	0.15	0.880	-10.67 (-21.99 to 0.66)	121.76	-1.85	0.067	-3.04 (-18.09 to 12.01)	123.38	-0.4	0.693

Note. SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; TAU = treatment-as-usual; FU1 = 24-week follow-up; FU2 = 48-week follow-up; PHQ-9 = Patient Health Questionnaire-9; MÅDRS = Montgomery Åsberg Depression Rating Scale; RHS-15 = Refugee Health Screener-15; BRS = Brief Resilience Scale; GSE = General Self-Efficacy Scale; SDQ = Strength and Difficulties Questionnaire; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version.

Appendix D

Table D1

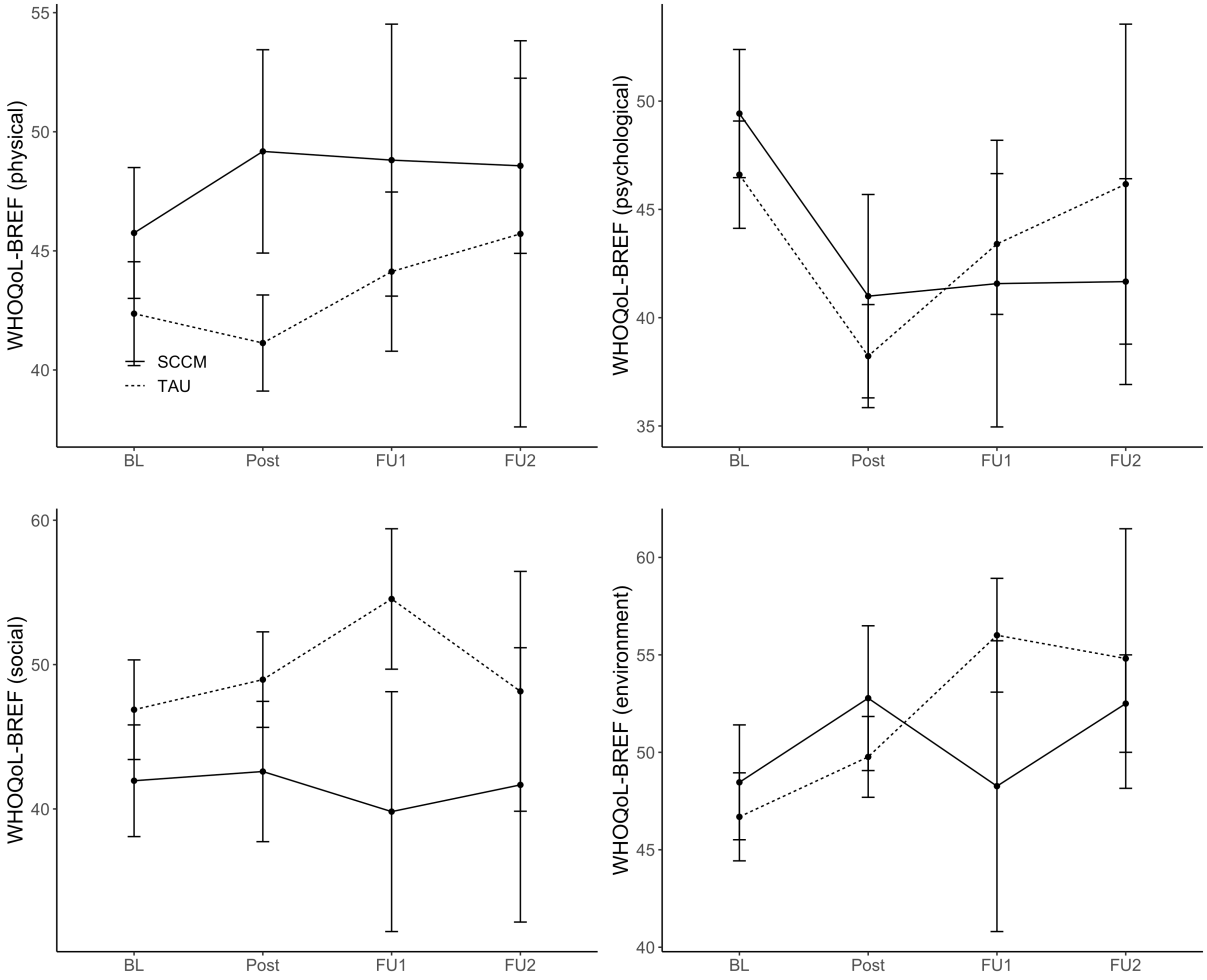
Sum scores of the WHOQoL-BREF domains as a function of study group across all four measurement times within the ITT sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version. Error bars represent ± 1 standard error.

Table D2

Sum scores of the WHOQoL-BREF domains as a function of study group across all four measurement times within the PP sample



Note. TAU = treatment-as-usual; SCCM = Empowerment group intervention within the Stepped and Collaborative Care Model; WHOQoL-BREF = World Health Organization Quality of Life questionnaire, brief version. Error bars represent ± 1 standard error.

Danksagung

Mein großer Dank gilt Herr Prof. Dr. med. Frank Padberg und Frau Dr. hum. biol. Aline Übleis. Sie haben die Forschungsschwerpunkte transkulturelle Psychiatrie und interkulturelle Psychotherapie an der Klinik für Psychiatrie und Psychotherapie der Ludwig-Maximilians-Universität München in den vergangenen Jahren gefördert und haben mit ihrer fachlichen Kompetenz und dem Engagement für die psychotherapeutische Arbeit mit Geflüchteten maßgeblich zur vorliegenden Arbeit beigetragen. Für ihre intensive Beratung und Unterstützung sowie für ihr Vertrauen in meine Arbeit bin ich ihnen sehr verbunden.

Herr Prof. Dr. Peter Falkai von der Klinik für Psychiatrie und Psychotherapie der Ludwig-Maximilians-Universität München und Herr Prof. Dr. Alkomiet Hasan des Bezirkskrankenhauses Augsburg danke ich dafür, dass sie der Idee eines Therapieprogramms für Geflüchtete von Beginn an offen gegenüberstanden und uns bei dessen Umsetzung fachlich und strukturell beraten haben.

Mein großer Dank geht an meine Kolleginnen und Kollegen der Klinik für Psychiatrie und Psychotherapie der Ludwig-Maximilians-Universität München. Insbesondere bedanken möchte ich mich bei Herr Michael Strupf für die enge, vertrauensvolle und zu jedem Zeitpunkt unterstützende Zusammenarbeit. Herr Stephan Goerigk danke ich sehr für seine wissenschaftliche Kompetenz und Unterstützung. Bei Frau PD Dr. Andrea Jobst-Heel möchte ich mich herzlich für zahlreiche Hilfestellungen bei der Entwicklung und Implementierung des Manuals bedanken. Herr Dr. Tilmann Bunse und Herr Dr. Max Burger danke ich für die psychiatrische Versorgung unserer Patientinnen und Patienten mit Fluchterfahrungen.

Einen besonderen Dank möchte ich Herr Prof. Dr. Malek Bajbouj und seinen Mitarbeiterinnen und Mitarbeitern der Charité Berlin, Campus Benjamin Franklin, aussprechen. Sie haben die Idee eines gestuften Versorgungsmodells für Geflüchtete ins Leben gerufen und damit den strukturellen Rahmen für die vorliegende Arbeit geschaffen. Meinen Kolleginnen und Kollegen des MEHIRA-Projektes an den Universitätskliniken Charité Campus Mitte, Aachen, Marburg und Mannheim danke ich herzlich für die zu allen Zeitpunkten produktive Zusammenarbeit. Bei Frau Brishna Sarwary und den Sprach- und KulturmittlerInnen des Bayrischen Zentrums

für Transkulturelle Medizin möchte ich mich dafür bedanken, dass sie sowohl Sprachrohr als auch kulturelle Brücke zu unseren Patientinnen und Patienten waren und sind.

Mein herzlicher Dank gilt den Teilnehmerinnen und Teilnehmern der Gruppentherapien, die durch ihre vertrauensvolle Offenheit und aktive Mitarbeit das Empowerment Manual haben lebendig werden lassen. Diese Arbeit ist ihnen gewidmet.

Affidavit

Eidesstattliche Versicherung

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Ich erkläre hiermit an Eides statt, dass ich die vorliegende Dissertation mit dem Titel:

Empowerment for refugees with affective disorders:
Development of a culturally sensitive group intervention
within the multicenter MEHIRA trial

selbständig verfasst, mich außer der angegebenen keiner weiteren Hilfsmittel bedient und alle Erkenntnisse, die aus dem Schrifttum ganz oder annähernd übernommen sind, als solche kenntlich gemacht und nach ihrer Herkunft unter Bezeichnung der Fundstelle einzeln nachgewiesen habe.

Ich erkläre des Weiteren, dass die hier vorgelegte Dissertation nicht in gleicher oder in ähnlicher Form bei einer anderen Stelle zur Erlangung eines akademischen Grades eingereicht wurde.

München, den 09.05.2022 Maren Wiechers

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