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Title	Mental health in Middle Eastern refugees resettled in the Western countries
Authors	Weihrauch, Mareike
Publication date	2019
Original Citation	Weihrauch, M. 2019. Mental health in Middle Eastern refugees resettled in the Western countries. DClinPsych Thesis, University College Cork.
Type of publication	Doctoral thesis
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Download date	2026-11-01 03:02:38
Item downloaded from	https://hdl.handle.net/10468/8724



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Mental Health in Middle Eastern Refugees Resettled in the Western Countries

Study 1 (A Narrative Systematic Review):
Family Factors Predicting Outcomes for Middle Eastern Refugee Children in High-Income Countries.

Study 2 (Major Research Project):
Prevalence of mental health distress among Syrian and Iraqi refugees and contextual and culturally relevant indicators affecting their mental health and resettlement experiences in Ireland

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May 2019



Declaration

"This is to certify that the work I am submitting is my own and has not been submitted for another degree, either at University College Cork or elsewhere. All external references and sources are clearly acknowledged and identified within the contents. I have read and understood the regulations of University College Cork concerning plagiarism."

Name: _____

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Acknowledgements

This project has been an amazing journey during which I have been able to learn from all the different people that I have met, worked alongside, and have been guided by. I would like to express my eternal gratitude to my Supervisors Dr. Angela Veale and Dr. Jennifer Hayes for their patience and immense knowledge. This work would not have been possible without their guidance and support, both practically and emotionally. I could not have imagined having better advisors and mentors.

I am very grateful for all the Syrian and Iraqi people that sacrificed their time to share with us their experiences. I acknowledge the contribution of the extended project team especially, Karim Abdullah, Zaid Kassoob, Robyn Mulligan, Chris McCusker, and Sam Lynch. This project was funded by the Health Service Executive and I thank Rebecca Loughry, Caroline Doyle, Tina Diggins, Denis Justice and team. Lastly, I would like to thank Sean Hammond, Mike Murphy, Kathleen O'Sullivan for the statistical support provided.

I would also express my gratitude to Keith for his never-ending support and patience. I would like to thank my family who have provided important emotional support. Lastly, I would like to acknowledge my grandparents', especially my grandfathers', life story and the impact it had on this project. This work was written in memory of my grandfather Rudi Schmidt.

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Study 1 (A Narrative Systematic Review)

Family Factors Predicting Outcomes for Middle Eastern Refugee Children in High-Income Countries

Prepared in accordance to submission guidelines of the *Journal of Child and Family Studies* (See Appendix A).*

Total Word Count
Main Text (incl. abstract and tables): 11139 words
References: 2111 words
Appendices: 5834 words
Supplementary: 345 words

**Note.* Although figures and tables are usually included as separate files for the journal, they were inserted in the text for ease of examination.

Family Factors Predicting Outcomes for Middle Eastern Refugee Children in High-Income Countries

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Abstract

Objectives: In recent years, a high number of Middle Eastern refugees have resettled in high-income countries. Those families have experienced significant traumatic experiences that impact on the functioning and well-being of whole families. This systematic review examines if family/parental functioning influences child and youth psychosocial outcomes within refugee families from the Middle East who have resettled in high-income countries. **Method:** PRISMA guidelines were followed for the identification and selection of articles resulting in the inclusion of 19 articles based on 10 separate samples. Due to the heterogeneity of articles, a narrative methodology was applied for the analysis of included studies. **Findings:** A consistent association between parental trauma/PTSD and child PTSD and mental health was found. A gendered element to the experience of distress in refugee families was indicated with maternal factors in particular being associated with child outcomes. Parental mental health and family factors were identified as risk and protective factors. Child outcomes are impacted by various complex pathways of parental and family factors occurred during pre-settlement and in the resettlement environment. Further, children's resettlement context, such as peer relationships are suggested to facilitate positive outcomes. **Conclusion:** While based on a small sample of studies, results support the thorough assessment of whole families. Further research using more consistent measures across studies is required to further promote the understanding of processes involved in the interaction between parental/family factors and child outcomes in Middle Eastern refugee families resettled in high-income countries.

Keywords: Middle Eastern refugees, refugee families, refugee child outcomes

Introduction

In the general population, parental and family factors are known to be linked to a wide variety of child outcomes, such as parent-child interactions playing a key role for brain development and executive functioning (Rochetter & Bernier, 2014; Takeeuchi et al., 2015). Children are dependent on their parents to develop emotion regulation skills (Repetti, Taylor, & Seeman, 2002), with a deficit in this skill set being linked to mental health difficulties in children (Southam-Gerow & Kendall, 2002). Factors negatively impacting on these interactions, and consequently child outcomes, are parental mental health (England & Sim, 2009) and parental trauma history (Bryant et al., 2018; Field, Muong, & Sochanivmean, 2013).

Refugee families, such as those from Syria and Afghanistan, having been forced to resettle due to war and violent conflict in their home country, are a vulnerable group due to having been exposed to various traumatic events across the different stages of their resettlement journey (Amnesty International, 1998; Lustig et al., 2004). Events that refugees are exposed to directly or indirectly can range from experiencing the violent death of a family member, witnessing violent acts against friends or relatives, being separated from family members, being tortured, kidnapped or abused, and lacking access to basic resources (Montgomery, 1998; Tinghög, Malm, Arwidson, Sigvardsdotter, Lundin, & Saboonchi, 2017). Consequently, prolonged or multiple traumatic experiences which are common among refugee families (Macksound, Dyregrov, & Raundalen., 1993) have been identified as a predictor for mental health outcomes with greater exposure associated with higher severity of mental health difficulties (Steel et al., 2009).

Epidemiological studies have found higher rates of mental health difficulties in refugee populations compared to host populations (Fazel, Wheeler, & Danesh,

2005, Lindert, Ehrenstein, & Priebe, 2009). A recent review on prevalence rates of mental health difficulties for young refugees (under the age of 18 years) having resettled in European countries suggested rates of posttraumatic stress disorder (PTSD) ranging from 19.0% to 52.7%, rates of depression between 10.3% and 32.8%, anxiety between 8.7% and 31.6%, and rates for behavioural and emotional difficulties rates are between 19.8% and 32.8% (Kien et al., 2017). Similarly, high rates of prevalence for depression (2.3-80%), PTSD (4.4-86%), and unspecified anxiety disorder (20.3-88%) were described for adult refugees in high-income countries (Bogic, Njoku, & Priebe, 2015). Variability in prevalence rates was accounted by differences in clinical and methodological features, country of origin, migration journey, and resettlement environment (Bogic, Njoku, & Priebe, 2015; Kien et al., 2017). For young refugees, resettlement factors identified included schooling, social support, and parent mental health (Fazel, Reed, Panter-Brick, & Stein, 2012). Parental trauma history has been associated with harsher or more overprotective parenting and higher levels of psychosocial adjustment difficulties among refugee children (Bryant et al., 2018; Field, Muong, & Sochanivmean, 2013).

In the literature on the transmission of parental trauma on children, Yehuda (2001) found an association between parental and child PTSD. Later studies found that maternal but not paternal PTSD has been suggested to relate to increased vulnerability for child PTSD (Yehuda, Bell, Bierer, & Schmeidler, 2008) but transmission pathways are complex and influenced by genetic, neurobiological (Yehuda et al., 1996), as well as social factors (Yehuda, Halligan, & Bierer, 2001; Yehuda, Bell, Bierer, & Schmeidler, 2008). In the context of Middle Eastern refugee families, factors of relevance lie within the pre-settlement and resettlement context providing various challenges to adults and children due to the new culture and its

impact on individuals, family systems, and the interaction of parents and children within the family unit (Mehraby, 1999). This has been noted as challenging for Middle Eastern families having to adjust to Western cultures, providing new challenges to the family system such as potential cultural differences for the roles of children or women and different values regarding child rearing or parenting (McMichael, Gifford, & Correa-Velez, 2011; Nakeyar, Esses, & Reid 2018). While Middle Eastern cultural gender-roles typically mean women have primary responsibility for care of children (Montgomery, 2008b), and men are the head of the household and provider, maintaining traditional gender-role norms can be challenging in contexts of resettlement (Hassan et al., 2015) where women may have to work, and men may struggle to provide for their family.

In light of high rates of mental health problems in this population coupled with unprecedented numbers of forced migrants from the Middle East (UNHCR, 2018), there is an urgent need to understand how best to support and address these challenges. While epidemiological rates are well documented, there is less that looks at whole family functioning. Given that we know that parental functioning impacts on child functioning and vice versa in in the general population, it makes sense that these patterns transfer to forced migrant families. Given the unique stressors associated with refugees and their journey, it makes sense that the importance of parent-child factors is even more critical. Understanding whether parental factors and if so, which factors, impact on child outcomes will help towards targeting these difficulties.

Due to the many potential factors interacting with each other such as country of origin, culture, and resettlement context, this review aims to account for some of these variables by limiting refugee's origin and resettlement countries. This is a gap

in existing systematic reviews with refugee populations (e.g. Sleijpen et al., 2016) and is in line with recommendations made by Wyman (2003) who noted potential dangers in summarising diverse cross-cultural evidence due to beneficial processes in one context being potentially harmful in another. Further, existing evidence notes the importance of not only considering differences between cultures of origin but also the resettlement environment (Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Further, the resettlement context has a modulating effect explaining differences in mental health difficulties across refugee populations and resettlement contexts (Lidencrona, Ekbald, & Hauff, 2008). Modulating resettlement stressors were defined across five core systems, namely attachment, security, identity and roles, justice/human rights, and existential/meaning (Silove, 2008). The Middle East is considered to have coherence as a cultural area, with the majority of inhabitants speaking Arabic, being Muslim, and sharing similar core family values while also recognising there is ethnic and religious diversity (World Culture Encyclopedia, 2018).

In light of the crisis in the Middle East, especially Syria, and a high number of refugees from that region resettling in western-world high-income countries (Resettlement Data Finder (RSQ), 2018), this review focuses on Middle Eastern refugees who have resettled in western, high-income countries. This review aims to answer: Within refugee families from the Middle East having resettled in high-income countries, does family/parental functioning influence child and youth psychosocial outcomes?

Method

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher, Liberati, Tetzlaff, Altman, & The Prisma Group, 2009)

framework was utilised as a guiding framework for the different stages of this systematic review. The framework was developed to improve the quality of reviews and provides a 27-item checklist to guide researchers through the different stages of conducting a systematic review starting with the identification and screening of articles, followed by the assessment of eligibility and quality assessment. The PRISMA statement describes the process of the systematic review as iterative, with modifications being possible based on scope and quality of studies identified. As suggested, any of those considerations are reported where appropriate. The process of the systematic review was completed by authors. Further, consultation was sought with a professor with expertise in the field of family functioning in paediatric settings as well as the field librarian.

Eligibility Criteria

Inclusion and exclusion criteria were defined by the research team and narrowed down following a broad scoping review of existing systematic reviews and the available evidence in this field. Criteria for the selection of articles were defined as follows: (1) were based on original research, with reviews or background articles being excluded, (2) focused on at least one facet of the defined outcome of interest, namely, refugee children's psychosocial health as the dependent variable, in the context of at least one facet of parental or family factors as an independent variable, (3) the population of interest in studies focused on refugee or asylum-seeking families or individuals from the Middle East, (4) examined populations of interest having resettled in high-income countries of the western world (5) publications were peer-reviewed, and (6) written in English. Children were defined based on definitions provided by the United Nations (UN), defining children as those until the age of 18 years of age (UN, 1990) and youth as those between the ages of 15 to 24 years of age

(UN, 1981). Therefore, psychosocial outcomes of children and youths of 0 to 24 years of age are included, which mirrored age ranges used for children across studies identified during the scoping review. We defined refugees as those people who due to the fear of persecution on the basis of their race, religion, nationality, membership of a particular social group or political opinion have been forced to leave their country and are unable to return to same (UNHCR, 1951). Psychosocial outcomes were defined as emotional, developmental, social, and educational outcomes of children.

For the purpose of this systematic review, only studies applying a quantitative methodology were included and studies which utilised structured clinical assessment interviews and quantified the results. This is justified as there is a limited number of assessment instruments normed for Middle Eastern populations and the tendency across studies to use structured clinical assessment tools as identified during the scoping review stage.

Search Strategy

Keywords were developed based on a broad scoping review of the literature, with a list of keywords, subject terms, Thesaurus, or MeSh Terms of high-prevalence being extracted from key-articles. Key-articles were identified as those fulfilling the outlined eligibility criteria. Further, extraction of keywords across relevant systematic reviews (Fazel, Reed, Panter-Brick, & Stein, 2012; Lewandowski, Palermo, Stinson, Handley, & Chambers, 2010) and consultation with the field librarian was sought to inform the search strategy. An adapted Population Intervention Comparison Outcome (PICO) framework was used to build a structured search strategy accounting for the different criteria of interest. The following overarching search terms were utilised to build the search strategy: ($P_{Population}$)

refugee, asylum seeker, child, adolescent, Middle East, ($I_{Intervention}$) family/parental factors, parenting, parental stress/ parental mental health/ parental adjustment/ parental functioning/ parental resilience, family functioning/ family cohesion/ family resilience/ family environment, ($C_{Context}$) high-income country (HIC), and ($O_{Outcome}$) psychosocial, psychological/mental health, social, emotional, developmental, educational, or adjustment. The Middle East was defined as the states or territories of Turkey, Iraq, Syria, Afghanistan, Kurdistan, Iran, Israel, Lebanon, Jordan, and Afghanistan. High-income countries were identified by economy and gross national income per capita as classified by the World Bank (World Bank, 2018). The UNHCR Resettlement Data Finder identified countries of interest such as the United States, Canada, Australia, New Zealand, United Kingdom, Germany, Norway, France, Sweden, Netherlands, Finland, Ireland, Spain, Italy, Austria, Switzerland, Denmark and Belgium as these countries account for 99% of the resettled refugees from the Middle East (RSQ, 2018). Each of these countries meets the World Banks' criteria of being considered a high-income nation and have similarities regarding their culture, economy, and to some extent politics. Each of these search domains and keywords were adapted according to the specific databases. For the comprehensive outline of search strategies used across databases refer to supplementary material S1.

Databases included were Academic Search Complete, PsychINFO, PsychARTICLES, Psychology and Behavioural Science Collection, CINAHL, ERIC, British Education Index, Education Full Text, Social Sciences Full Text, SocINDEX with Full Tet, MEDLINE, PubMed, EMBASE, ASSIA, Sociological Abstracts, Cochrane, SCOPUS, Web of Science. Additionally, Google Scholar, NHS EED, Oxford Refugee Studies Centre, U.S. National Library of Medicine

(ClinicalTrials.gov), and grey literature (Opengrey and Greylit). The reference lists of recent relevant systematic reviews were also searched.

Article Selection

Databases were searched from inception until 20th October 2018. The article selection process followed PRISMA guidelines and is outlined in Figure B1 (Appendix B). Electronic searches were imported into EndNote to remove duplicates and were then transferred to Rayyan to identify articles to be included and track exclusion reasons. The screening process was conducted by the first two authors, resulting in 19 final articles with the inter-rated agreement exceeding 90%. Any conflicts in ratings were resolved through discussion between the two raters and finalised through discussion.

Quality Rating

Studies identified as eligible were assessed for their quality using a version of Downs and Black Quality Index (Downs & Black, 1998) as adapted by Puka et al. (2018). This adapted tool was utilised due to its application for cross-sectional non-intervention studies and qualities as outlined in a systematic review of quality assessment tools (Jarde, Losilla, & Vives, 2012) and use in other reviews of a similar nature. This tool consists of 15 items which are rated as 1 ("Yes") or 0 ("No" or "Unclear") and provides information to 4 subscales: reporting quality, external validity, internal validity, and statistical power. The quality assessment was conducted by the two authors independently for all the eligible studies and differences in ratings were resolved through discussion. Again, inter-rater agreement exceeded 90%. Studies were classified as low, medium, or high quality across the subscales and overall, resulting in 5 studies being classified as overall being of high quality, 13 being of medium quality, and 1 being of low quality.

Data Extraction and Synthesis

An outline for key data to be extracted from identified articles was created in collaboration between the authors identifying key areas of interest for the systematic review and was informed by data extracted in other systematic reviews in this field. Data was extracted by MW and reviewed by AV to verify the accuracy and breath of the extracted data. For each study, results as reported in the study were extracted and effect sizes were calculated for relevant associations between family factors and children's outcomes. Included studies varied in their study designs, populations, parent and family factors, child outcomes, and assessment measures. Consequently, synthesising results in a meta-analytical manner was deemed inappropriate and instead a narrative and descriptive synthesis of findings was employed. Where appropriate a comparison of the magnitude of the different effect sizes was conducted for the impact of specific family factors on children's outcomes. Effect sizes were computed using Lenhard and Lenhard's (2016) calculation of effect sizes and the magnitude of effect sizes were interpreted based on published guidelines (Chen, Cohen, & Chen 2010; Cohen, 1992).

Results

An overview of the study characteristics for each of the analysed studies is displayed in Table 1, providing information on the study population, resettlement context, study design and assessment measures, information about the year the study was conducted, and quality assessment scores. Table C1 (Appendix C) provides a detailed overview of results of the included studies categorised according to the impact of different family factors on various child outcomes.

Table 1

Study Characteristics of Included Studies

Authors	**Study Population (sample size, gender, age, per child and adult)**	**Refugee Origin**	**Geographic Information (Conflict/ war, Resettlement country)**	**Study design & Measures**	**Parent & Child (who was assessed, who completed measures)**	**Year data was collected** **Observation point (time spent in host country)**	**Summary of key findings**	**Quality assessment (adapted Black & Downs, 1998)**	
Ahmad et al,. (2008)	N=312 Children N=293 Mothers N=248 Fathers Homeland Group (HLG): *Children:* N=201 Age: M= N/A (6-18 years) Gender: 52.7% F *Parents:* Mothers: N=194 Fathers: N=168 Age: N/A Exile Group (EG) *Children:* N=111 Age: M=N/A (6-18 years) Gender: 59.5% F *Parents:* Mothers: N=99 Fathers: N=80 Age: N/A	Kurdistan HLG: Iraqi Kurdistan EG: Kurdistan parts of Turkey (55.0%), Iran (22.5%), Iraq (18.9%), Syria (1.8%), & Lebanon (1.8%)	EG: Resettlement/ Location of study: Uppsala, Sweden Conflict/war: N/A	Cross-sectional case-control study design Children (self-report): • HUTQ-C • PTSS-C Family/Parent: • Family Genogram • HTQ	Parents & Children	HLG: 1999 (postponed due to local circumstances) EG: 1996-1998 Children: M=7.9 years (69.4% of their lifetime) Parents: Mothers: M=8.8 years Fathers: M=8.6 years	The fathers' PTSD negatively correlated with the living standard and fathers' education, while child PTSD mostly correlated with maternal education and living in exile. Living in exile seems to have a negative impact on fathers' post-traumatic reactions, despite its positive influence on children	Reporting External Validity Internal Validity Power Overall	High Medium Medium Low Medium
Almqvist et al., (1999)	N= 39 children Age: M=8.4 (6-10 years)	Iran	Resettlement/ Location of	Cohort and cross-sectional study	Parent & Child	Assessment: (1987-1988) and FU	Mother's emotional well-being predicted emotional well-being in	Reporting	Medium

	Gender: 26% F		study: Sweden (Värmland) Conflict/war: N/A	design Children: • Structured Interview/tasks • Behaviour observations • 'I think I am' Questionnaire • Social Adjustment Index Children (by parents): • Structured Interview Parents: • Structured Interview		Observational Point: 3 ½ years	children, whereas children's social adjustment and self-worth were mainly predicted by the quality of their peer relationships.	External Validity Internal Validity Power Overall	High High Low High
Dalgaard et al., (2016)[1]	N=30 families Children (30 children): Age: M=6.78 years (1.55, 4-9 years) Gender: 46.67% F No trauma exposure Parent: Age: N/A Gender: N/A Relevant Inclusion criteria: At least 1 parent referred for PTSD treatment	Iraq Iran Lebanon Palestine Syria Afghanistan	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cross-sectional study design (Mixed methods) Children (by Parent): • SDQ Children: • ATST Parents: • HTQ • HSCL-25 • Interview	Parent & Parent-> Child	Assessment: N/A Observational Point: N/A	Association between attachment, parental mental health symptoms, and intra-family communication style with children's psychosocial adjustment difficulties was suggested, as well as the negative impact of parental symptoms on attachment security.	Reporting External Validity Internal Validity Power Overall	Medium Low Medium Low Medium
Dalgaard et	N=30 families	Iraq	Resettlement/	Cross-sectional	Parent &	Assessment:	Children's SDQ scores could be	Reporting	Medium

al., (2017)[1]	Children (N=30): Age: M=6.78 years (1.55, 4-9 years) Gender: 46.67% F Parent: Age: N/A Gender: N/A Relevant Inclusion criteria: At least 1 parent referred for PTSD treatment	Iran Lebanon Palestine Syria Afghanistan	Location of study: Denmark Conflict/war: N/A	study design (mixed method) Children (by Parent): • SDQ Parents: • Interview	Parent-> Child	N/A Observational Point: N/A	predicted by whether or not the family experienced a pile-up of stressors and whether or not the family was characterized by role reversal between parents and children. Correlation between total adaptive family functioning and children's psychosocial adjustment difficulties.	External Validity Internal Validity Power Overall	Low Medium Low Medium
Daud et al., (2008)[2]	N=30 Families N=80 Children Traumatized parents group (TP) Families: N=15 Children: N=40 Age: M=12.1 years (2.1, 6-17 years) Gender: 50% F Parents: N=30 Age: M=41.1 years Non-traumatized parents group (NTP) Families: N=15 Children: N=40 Age: M=12.5 years (2.2, 6-17 years) Gender: 50% F Parents: N=26	TP: Iraq NTP: Egypt, Syria, Morocco	Resettlement/ Location of study: Sweden Conflict/war: During former regime in Iraq and before ongoing Iraq war	Cohort and cross-sectional study design Children: • DICA-R • PTSS • WISC-III • 'I think I Am' Questionnaire Children (by teachers): • SDQ Parents (previously assessed using clinical interview, HUTQ, KSP)	Parents & Children	Assessment: N/A Observational Point: Criteria: Resettled in Sweden >2years	Parental trauma correlated with children's cognitive functioning Protective factor for children within families with traumatized parents is the relation to the family in addition to individual based variables and peer problems	Reporting External Validity Internal Validity Power Overall	Medium Low Medium Low Medium

	Age: M=42.2 years								
Daud et al., (2009)[2]	N=80 Children Traumatized parents group (TP) Families: N=30 Children: N=40 Age: M=12.1 years (2.1, 7-16 years) Gender: 50% F Parents: N=30 Age: N/A Non-traumatized parents group (NTP) Families: N=26 Children: N=40 Age: M=12.5 years (2.2, 7-16 years) Gender: 50% F Parents: N=26 Age: N/A	TP: Iraq NTP: Egypt, Syria, Morocco	Resettlement/ Location of study: Sweden Conflict/war: During former regime in Iraq and before ongoing Iraq war	Cohort and cross-sectional study design Children: • DICA-R-C (self & parent) • WISC-III • PTSS-C Children (by teachers): • SDQ • YCI Parents • KSP • HUTQ • Semi-structured clinical interview	Parent & Child	Assessment: N/A Observational Point: Criteria: Resettled in Sweden >2years	An association between parental PTSD and children's presentation with ADHD and PTSD symptoms was suggested. An association between parental PTSD children's cognitive functioning was suggested.	Reporting External Validity Internal Validity Power Overall	Medium Low High Low Medium
Ghanzinour et al., (2003)	N=100 Male: n=66/66% • Age: M=38.41 years (7.33) Female: n=34/34% • Age: M=35.71 years (7.07)	Iran	Resettlement/ Location of study: Sweden Conflict/war: N/A	Cross-sectional study design Adult Children: • SCL-90-R • BDI • EMBU • TCI	Adult Child -> Parent & Adult Child	Assessment: 200-2001 Observational Point: Male years in Sweden: M=12.83 years (4.63) Female years in Sweden: M=11.85 years (4.21)	An association between psychopathological scores in the adult children and memories of parental upbringing (Retrospective/ long-term impact of parental rearing	Reporting External Validity Internal Validity Power Overall	High Low Medium Low Medium
Hosin et al.,	N=61 families/adults	Iraqi	Resettlement/	Cross-sectional	Parent &	Assessment: 2003 –	Positive correlation between	Reporting	High

(2006)	M=3 children per household Mothers: 44.26% N=162 children Age: M=N/A (1-14 years) Gender: N/A		Location of study: England (London) Conflict/war: N/A	design Children (by parents): • CBCL (shortened & modified) Adults: • GHQ	Parent -> Child	2004 Observational Point: between 1 to 10 years (20% for 1-2 years, 26% for 3 to 5 years, 54% for 6 to 10 years)	distressed parents and children's adjustment difficulties as reported by parents	External Validity Internal Validity Power Overall	Low Medium Low Medium
Javanbakht et al., (2018)	N=53 families N=131 children Gender 40.45% F Age: M=11.02 years (3.32, 6-17 years) • Female Age: 11.43 years (3.07) • Male Age: 10.73 years (3.47) N=83 Parents Gender: 54.22% F Age Mothers: M=36.56 years (6.01) Age Fathers: M=42.81 years (8.11)	Syria	Resettlement/ Location of study: United States (Detroit) Conflict/war: Syrian crisis	Cross-sectional study design Children: • UCLA Posttraumatic Stress Reaction Index • SCARED Parents: • PCL-C • HSCL-25	Parent & Child	Assessment: June 2016 – May 2017 Observational Point: 1 months after arrival (prior 2 years in camps)	Measures of maternal mental health was association with children's mental health, same did not apply to paternal mental health.	Reporting External Validity Internal Validity Power Overall	High Medium Medium Low High
Mghir et al., (1995)	N=15 families N= 38 children Age: M= 18.1 years (3.14, 12-24 years) Gender: 44.74% F	Afghanistan Ethnic backgrounds (Tajik & Pashtun)	Resettlement/ Location of study: United States (Seattle) Conflict/war: Since 1979: Invasion of Soviet Union	Cross-sectional study design Children: • HTQ • Structured Clinical Interview • CAPS Parents:	Parent & Child	Assessment: N/A Observational Point: 4.6 years (2.7)	Positive associations were found between children's mental health difficulties and parental level of psychological distress was suggested Negative correlations between children's symptomatology and a measure of maternal acculturation were found.	Reporting External Validity Internal Validity Power Overall	Medium Medium High Low Medium

			and subsequent civil war	• HTQ • BDI • HSCL-25				
Montgomery (1998)[3]	N=149 families N=311 children Age: 7.5 years (3-15 years) Gender: 48.55% F Parents: Mothers' age: M=33 years (19.56 years) Fathers' age: M=37 years (26-50 years)	Nationality: Iran, Iraq, stateless Palestinian, Syria, Lebanon Ethnicity: Kurdish & Palestinian	Resettlement/ Location of study: Denmark Conflict/war: war/ persecution/ violence in home country 1990-1992	Cohort and cross-sectional design Children (by parents): • Structured Interview Parents: • Structured Interview	Parent & Child	Assessment: 1992-1993 Observational Point: Median= 7 days (1-382 days)	Associations between parental/ family traumatic pre-settlement experiences as well as post-settlement parental behaviours and children's experiences of PTSD related symptoms as well as dimensions of anxiety were indicated.	Reporting: Medium External Validity: High Internal Validity: Medium Power: Low Overall: Medium
Montgomery (2008a)[4]	N=67 families N=131 children Gender: 58.01% F Age: M=15.3 years (11-23 years)	Nationality: Iran, Iraq, stateless Palestinian, Syria, Lebanon Ethnicity: Kurdish & Palestinian	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cohort and cross-sectional study design Children • Structured Interview • YSR/ YASR Parents: • Structured Interview	Parent & Child	Assessment: 2000-2001 (follow up on those registered 1992-1993) Observational Point: 8-9 years post migration	The family level explained some of the variance of externalizing and internalizing scores in children. Mother's education in home country predicted some of the variance of internalizing and externalizing behaviour	Reporting: High External Validity: High Internal Validity: High Power: Low Overall: High
Montgomery (2008b)	N=64 families N=122 children Gender: 57.38% F Age: M=15.3 years (11-23 years)	Middle East (Nationality: Iran, Iraq, stateless Palestinian Ethnicity: Kurdish & Palestinian	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cohort and cross-sectional study design Children • Structured Interview • YSR/ YASR Parents:	Parent & Child	Assessment: 2000-2001 (follow up on those registered 1992-1993) Observational Point: 8-9 years post migration	Differences in self- and parent rated SDQ ratings were associated with different factors of parent-child interactions, and paternal demographics and well-being.	Reporting: High External Validity: High Internal Validity: Medium Power: Low Overall: High

				• Structured Interview • CBCL/YABC					
Montgomery (2010)[4]	N=67 families N=131 children Gender: 58.01% F Age: M=15.3 years (11-23 years)	Nationality: Iran, Iraq, stateless Palestinian Ethnicity: Kurdish & Palestinian	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cohort and cross-sectional study design Children • Structured questionnaire • YSR • YASR Children (by parents): • CBCL Parents: • Structured questionnaire	Parent & Child	Assessment: 2000-2001 (follow up on those registered 1992-1993) Observational Point: 8-9 years post migration	At follow-up paternal demographic variables were suggested to contribute to distinguishing between children classified as adapted or traumatised and maternal parent-child interactions contributing to distinguishing between children classified as spared or traumatized.	Reporting External Validity Internal Validity Power Overall	High High High Low High
Montgomery et al., (2001)[3]	N=146 families N=311 children Age: M=7.5 years (3-15 years) Gender: 48.55%	Nationality: Iran, Iraq, stateless Palestinian Ethnicity: Kurdish & Palestinian	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cohort and cross-sectional design Children (by parents): • Structured Interview Parents: • Structured Interview	Parent & Parent -> Child	Assessment: 1992-1993 Observational Point: Median latency 7 days	A variety of violence experiences in children's family's pre-settlement as well as post-settlement paternal child-family interactions predicted children's sleep difficulties.	Reporting External Validity Internal Validity Power Overall	Medium High Medium Low Medium
Montgomery et al., (2006)[3]	N=146 families N=311 children Age: M=7.5 years (3-15 years)	Nationality: Lebanon, Iran, Iraq, stateless Palestinian	Resettlement/ Location of study: Denmark	Cross-sectional study design Child (as reported by parents:	Parent & Parent-> Child)	Assessment: 1992-1993 Observational Point: N/A	PTSD symptom complex in children was predicted by parental violent exposures pre-settlement as well as parent-child interactions and parental demographics.	Reporting External Validity	Medium High

	Gender: 48.55% F	Ethnicity: Kurdish & Palestinian	Conflict/war: N/A	• Parental structured interview				Internal Validity	Medium
								Power	Low
								Overall	Medium
Montgomery et al., (2008)[4]	N=67 families N=131 children Age: M=15.3 years (11-23 years) Gender: 58.01%	Middle East (Nationality: Iran, Iraq, stateless Palestinian Ethnicity: Kurdish & Palestinian)	Resettlement/ Location of study: Denmark Conflict/war: N/A	Cohort and cross-sectional design Children (by parents): • Structured Interview • YSR/ YASR Parents: Structured Interview	Parent & Child	Assessment: 1992-1993 and FU 2000-2001 Observational Point: N/A	Parental demographic variables were associated with different discrimination experiences made by children. No associations were found between the parental social situation and children's adaption and mental health problems.	Reporting	High
								External Validity	Medium
								Internal Validity	Medium
								Power	Low
								Overall	Medium
Sundelin Wahlsten et al., (2001)	N=118 refugee children Parents: N=81 Selected for comparative sample: N= 32 children Age: M=11.31 years (6-18 years) Gender: 56.25% F Parents: N=44 (56.81% F) (Comparison group - Swedish): N=104 children Selective for comparative sample: N=32 children Age: M=11.53 years (11-12 years) Gender: 59.38% Parents: N=43 (53.49%)	Kurdistanian (redefined as areas in Turkey, Iran, Iraq, & Syria)	Resettlement/ Location of study: Sweden (Uppsala) Conflict/war: N/A	Cross-sectional case-control study design Children (self-report): • HUTQ-C • PTSS-C Family/Parent: • HTQ	Parent & Child	Assessment: N/A Observational Point: N/A	Children of both groups reported no significant differences in trauma levels. Children in both samples showed no significant differences in PTSD symptom scores except in the re-experiencing symptom cluster (Swedish children > Kurdistanian children), Kurdistanian parents showed significantly higher lifetime and current PTSD scores	Reporting	Medium
								External Validity	Low
								Internal Validity	Low
								Power	Low
								Overall	Low

Trentacosta et al., (2016)	N=211 children Age: M=12.83 years (3.17, 8-22 years) Gender: 51.18% F	Iraqi	Resettlement/ Location of study: US (Detroit) Conflict/war: 1993 war in Iraq or subsequent war	Cross-sectional study design Child: • HTQ • IES-R • Depression Self-Rating Scale or Children • Supportive relationship with parents & Positive feelings about school from Communities that Care Youth Survey	Child -> Parent & Child	Assessment: 2012 Observational Point: N/A	An association between the relationship with parents and children's depressive symptoms as well as feelings about schools was found.	Reporting External Validity Internal Validity Power Overall	Medium Low High Low Medium

[1]Studies based on same sample, [2]Studies based on same sample, [3]Studies based on same sample, [4]Studies based on same sample

Abbreviations:
F=Female, FU= Follow-up, PTSD=Posttraumatic Stress Disorder
Assessment Measures Abbreviations: HUTQ=Harvard-Uppsala Trauma Questionnaire, HUTQ-C=Harvard-Uppsala Trauma Questionnaire for Children, HTQ=Harvard Trauma Questionnaire, PTSS=Post-Traumatic Stress Symptoms Checklist, PTSS-C=Posttraumatic Stress Symptoms for Children, SDQ=Strength and Difficulties Questionnaire, ATST=Attachment and Traumatization Story Task, HSCL-25=Hopkins Symptom Checklist – 25, DICA-R=Diagnostic Interview for Children and Adolescents, WISC-III=Wechsler Intelligence Scale for Children, Third edition, KSP=Karolinska Scales of Personality, YCI=Yale Children Inventory, SCL-90-R=Symptom Checklist-90-Revised , BDI=Beck Depression Inventory, EMBU=Own Memories Concerning Upbringing Questionnaire, TCI=Temperament and Character Inventory, GHQ=General Health Questionnaire, UCLA Posttraumatic Stress Reaction Index= University of California at Los Angeles Posttraumatic Stress Reaction Index, SCARED=Screen for Child Anxiety Related Disorders, PCL-C=PTSD Checklist-Civilian Version, CAPS=Clinician-Administered PTSD Scale, YSR=Youth Self Report, YASR= Young Adult Self report, CBCL= Child Behaviour Checklist, YABC=Young Adult Behaviour Checklist, IES-R=Impact of Event Scale-Revised.

Study and Sample Characteristics

Across the 19 studies, information from 10 separate sample populations were analysed, with refugee's country of origin being from Iraq (n=6), Iran (n=4), Syria (n=4), Lebanon (n=2), Palestine (n=2), Afghanistan (n=2), Kurdistan (n=2), Egypt (n=1), and Morocco (n=1). The majority of these studies were based on separate samples investigating results for refugee children from one country (n=8), rather than a variety of the different Middle Eastern countries. The countries in which the studies took place and refugees resettled were Sweden (n=5), United States (n=3), Denmark (n=2), and England (n=1). The year in which refugee children and their parents were assessed across studies ranged from 1987 to 2017. In total, 17 out of the 19 studies were cross-sectional studies, and only 2 studies (Almqvist & Broberg, 1999; Montgomery, 2010) were longitudinal ones, comparing assessment results over two time-points.

Family and Parental Factors

Parents across all studies were reported to have been exposed to traumatic experiences. Table 2 displays the different dimensions of family and parental factors that were investigated in relation to children's outcomes. The impact of parental demographic information, such as levels of education, were explored across 8 studies. Parental factors most frequently assessed were dimensions of parental mental health. Parental trauma or PTSD was discussed across 12 articles, followed by studies exploring the impact of parental anxiety (n=4), parental depression (n=3), or unspecified parental mental health (n=3). Parental mental health was assessed by a variety of mental health screeners including standardised assessment measures, such as the Harvard Trauma Questionnaire (HTQ; n=4) or structured clinical interviews for the assessment of parental PTSD and/or mental health (n=5). The Hopkins

Symptom Checklist (n=3) in addition to structured interviews was most frequently assessed for assessing parental mental health. Family factors were assessed via questionnaires or structured clinical interviews. In addition, a number of studies included dimensions of parent-child interactions/ relationships (n=7). Factors less commonly assessed across included studies included parenting, marital discord, family communication/ functioning, parental acculturation, and the loss of a parent or family member.

Table 2

Overview of Parent/Family Factors

Study	Parental Mental health				Parenting / Rearing	Parent demographics	Parent & child relationship / Interaction	Marital discord	Family Communication	Family Functioning	Parental adjustment/ acculturation/ adaptation	Family member's death/ Presence of both parents
	Trauma / PTSD	Anxiety	Depression	Mental/Emotional Health/ wellbeing								
Ahmad et al,. (2008)	X					X (maternal education)						
Almqvist et al., (1999)	X			X				X				
Dalgard et al., (2016)	X	X	X				X		X			
Dalgaard et al., (2017)	X*							X		X		
Daud et al., (2008)	X*						X					
Daud et al., (2009)	X											
Ghanzinour et al., (2003)					X (Rejection, emotional warmth, overprotection)							
Hosin et al., (2006)				X								
Javanbakht et al., (2018)	X	X	X									
Mghir et al., (1995)	X	X	X			X (maternal education)					X (Mother's English, English spoken at home)	
Montgomery (1998)[3]	X				X	X (maternal occupation)						X (Father's, grandparent's death)
Montgomery (2008)						X (maternal education)						
Montgomery (2008)		X		X		X (paternal education)	X					
Montgomery (2010)						X (paternal education)	X					

Study	Parental Mental health				Parenting / Rearing	Parent demographics	Parent & child relationship / Interaction	Marital discord	Family Communication	Family Functioning	Parental adjustment/ acculturation/ adaptation	Family member's death/ Presence of both parents
	Trauma / PTSD	Anxiety	Depression	Mental/Emotional Health/ wellbeing								
Montgomery et al., (2001)[3]	X						X					X (Grandparents, presence parents)
Montgomery et al., (2006)[3]	X					X (parental occupation)	X					
Montgomery et al., (2007)						X					X	
Trentacosta et al., (2016)							X					
Sundelin Wahlsten et al., (2001)	X											

*Inclusion criteria for parents

[3]Same sample, different measures/ aspects

Child Outcomes

The age of children across the studies ranged between 1 to 24 years. The only exception was the sample of adults in Ghazinour et al.'s (2003) study who in contrast to the other studies retrospectively rated their parenting experience after they had become adults. Across studies, a variety of assessment approaches and measures were used to investigate parent/family and child factors. Table 3 outlines the different dimensions of children's mental health outcomes assessed. All included studies assessed at least one dimension of children's mental health with trauma or PTSD related symptoms being the most frequently assessed mental health concern (n=11), followed by non-specified general emotional and/or psychosocial wellbeing (n=10), externalizing difficulties (n=5), and internalizing difficulties (n=4). Less frequent child outcomes assessed were child adaptation (n=2), children's performance on intelligence assessments (n=2), attachment behaviour (n=1), and experience of discrimination (n=1). Assessment measures employed to investigate child outcomes varied greatly across studies, with the Strength and Difficulties Questionnaire (SDQ) being used across 4 studies and versions of the child or youth Achenbach scales across 5 studies, where both assessments were either self-rated assessments or assessments completed by children's parents and/or teachers. Further, most studies employed different forms of structured interviews to identify children's outcomes. Child PTSD levels or trauma symptoms/events were assessed via a variety of measures such as versions of the HTQ (HTQ, Harvard-Uppsala Trauma Questionnaire for Children (HUTQ), n=6), Posttraumatic Stress Symptoms for Children (PTSS-C; n=2), Diagnostic Interview for Children and Adolescents (DICA-R; n=1), Clinician-Administered PTSD Scale (CAPS; n=1), UCLA Child/Adolescent PTSD Reaction Index (n=1), and clinical structured interviews (n=3). Across

included studies, children across 14 studies had a history of traumatic experiences with only children in Dalgaards' and colleagues (2016, 2017) and Daud and colleagues (2008, 2009) studies not having been exposed directly to traumatic experiences. One study did not provide information about children's trauma experiences (Hosin, Moore, & Gaitanou, 2006).

Table 3

Overview of Child Outcomes

Study	Child Mental Health						Child adaption	Attachment	IQ	Discrimination
	PTSD/PTSS/ Trauma	**Anxiety**	**Depression**	**Mental/Emotional/ Psychosocial wellbeing**	**Externalizing (incl. ADHD)**	**Internalizing**				
Ahmad et al,. (2008)	X									
Almqvist et al., (1999)	X			X			X			
Dalgard et al., (2016)				X	X	X		X		
Dalgaard et al., (2017)				X						
Daud et al., (2008)	X			X	X (Hyperactivity)	X (Emotionality)			X	
Daud et al., (2009)	X			X	X (ADHD)				X	
Ghanzinour et al., (2003)		X	X	X						
Hosin et al., (2006)				X						
Javanbakht et al., (2018)	(X)[1]	X								
Mghir et a., (1995)	X		X							
Montgomery (1998)[3]	X	X								
Montgomery (2008)					X	X				
Montgomery (2008)					X[2]	X[2]				
Montgomery (2010)	X									

Study	Child Mental Health									
	PTSD/PTSS/ Trauma	**Anxiety**	**Depression**	**Mental/Emotional/ Psychosocial wellbeing**	**Externalizing (incl. ADHD)**	**Internalizing**	**Child adaption**	**Attachment**	**IQ**	**Discrimination**
Montgomery et al., (2001)[3]				X (sleep)						
Montgomery et al., (2006)[3]	X			X						
Montgomery et al., (2007)				X			X			X
Trentacosta et al., (2016)	X		X							
Sundelin Wahlsten et al., (2001)	X									

[1]Not in relation to parental/ family factors

[2]Differences between self & parent ratings on those

[3]Same sample, different measures/ aspects

Parental Demographic Variables and Child Outcomes

Resettling with both parents was identified as a protective factor (Montgomery & Foldspang, 2001) and consequently the death of the father was identified as a strong significant risk factor for children presenting with anxiety related symptoms (Montgomery, 1998). Across 6 studies, family factors explored in relation to child outcomes were parental demographics. Within this domain, education was highlighted most frequently (n=5), whereby maternal levels of education were identified as relevant to better child outcomes more frequently than paternal education. Low levels of maternal education were identified as a risk factor for child mental health, with a small but significant association with child PTSD (Ahmad, von Knorring, & Sundelin-Wahlsten 2008) and a medium significant correlation with child PTSD/depression (Mghir, Freed, Raskin, & Katon, 1995). Further, it was identified as the strongest unique predictor in regression models for children's externalizing and internalizing behaviours (Montgomery, 2008a). Paternal education was only identified as of significance for child outcomes in a study comparing children's levels of PTSD across two timepoints. Montgomery (2010) discusses that at follow-up, covariates that distinguished between children who presented with difficulties at arrival but not during follow-up and those that remained traumatised were paternal education and the young refugee attending school or work.

Parental occupation in pre-settlement was another factor identified as contributing significantly to predictive models of PTSD symptom complex in children, with the father having had a job making a large contribution and maternal past occupation making a moderate contribution (Montgomery & Foldspang, 2006). In contrast, within the resettlement context, the role of parental unemployment is suggested to be a strong risk factor for refugee children who were more likely to

experience being ignored by teachers (Montgomery & Foldspang, 2008). Parental acculturation, assessed by levels of parents' acquired language level, especially regarding the mother's language ability and whether the new language is spoken at home, was suggested to be associated with PTSD/depression in children with moderate significant correlations (Mghir, Freed, Raskin, & Katon, 1995). Parents' social situation as measured by employment status, education, and language skills after approximately 7 to 8 years since arrival, were not found to be associated with children's social outcomes or mental health difficulties (Montgomery & Foldspang, 2008).

Across these findings, the consideration of demographic family factors as risk and protective factors for child mental health was outlined with lower levels of education and unemployment being significant risk factors for psychosocial difficulties in children and parental employment having protective value. Patterns highlighted the difference of pre-settlement and resettlement factors as well as differences between maternal and paternal factors.

Impact of Parental Trauma/ PTSD and Child Mental Health

Most of the studies considered the impact of parental trauma on child mental health with 8 studies considering its association with trauma related symptoms experienced by children and 6 studies investigating this parental factor in relation to mental health other than trauma or PTSD.

Parental trauma/PTSD and child trauma/PTSD.

The interaction between parental trauma experience or experience of PTSD and children's experience of PTSD or PTSD related symptoms was explored across 8 studies. Most of those considered parental PTSD and its associated expression in children. Parental PTSD was consistently identified as a risk factor for children

experiencing PTSD related difficulties with the effect size for those associations being medium to large, with associations being complex rather than simple interactions (Almqvist & Broberg, 1999; Daud, af Klinteberg, & Rydelius, 2008; Daud & Rydelius, 2009; Mghir, Freed, Raskin, & Katon, 1995; Montgomery, 1998; Montgomery & Foldspang, 2006).

In line with literature suggesting traumatic events are a shared experience of families that impact on the family as a whole (Walsh, 2007), three studies considered the impact of parental trauma experience and its association with children's experience of trauma related symptoms. Almqvist et al., (1999) in their cross-sectional study of young refugee children 3.5 years after resettlement, suggested a significant moderate association between parental and child severe trauma exposure. Additionally, two studies considered the association of traumatic events experienced by parents and their predictive nature on children's reexperiencing and arousal symptomatology as well as PTSD symptom complex noting significant associations (Montgomery, 1998; Montgomery & Foldspang, 2006). Various pre-settlement factors, especially parental trauma experience such as maternal torture or the father having been exposed to organised violence made medium strong unique contributions to children's re-experiencing symptomatology in combination with the children having experienced physical violence by an official and having lived in a refugee camp. Similar factors predicted arousal symptomatology in refugee children (Montgomery, 1998). For PTSD symptom complex, maternal torture experience was the strongest significant predictor with a large effect size and paternal disappearance a predictor with a small effect size. Other predictive factors of PTSD symptom complex were children's age (child aged 7 to 11 years), behavioural/parent-child interaction factors (e.g. mother cuddles the child more), and social background

factors (e.g. parents have been vocationally occupied; Montgomery & Foldspang, 2006). These models suggest that while parental trauma experiences presented risk factors for children experiencing symptoms of PTSD, this relationship is complex in nature, and also included factors in the resettlement environment such as parent-child behaviours and demographic variables of parents and children.

Daud and colleagues (2008, 2009) compared two samples of Middle Eastern refugees. One group consisted of children who had at least one parent with a documented torture history and PTSD diagnosis. The other group had parents with neither a torture history nor a diagnosis of PTSD. None of the children were said to have been exposed directly to traumatic experiences. Across the two studies, parental PTSD was identified as a risk factor with 77.5% of children in the traumatised parents group reporting PTSD related symptoms as assessed by use of the DICA-R. In the comparison group of children with parents without trauma/PTSD none of the children reported PTSD related symptoms (Daud, af Klinteberg, & Rydelius 2008). This was also found in Daud et al., (2009) which was based on the same sample, noting that girls showed more PTSD symptoms than boys, but boys displayed more ADHD symptoms than girls in the traumatized parent group. Across both studies the effect sizes for the association between parental PTSD and child PTSD related symptoms was significant, of a large magnitude, and assessed at least two years after resettlement. In contrast, Mghir et al. (1995) explored the association between parental PTSD and adolescents'/young adults' PTSD scores whereby in contrast to the children in Daud and colleagues (2008, 2009) study, these older children had been exposed to traumatic experiences as teenagers and were assessed after an average of 4.6 years following resettlement. Parents and children completed the HTQ and high paternal HTQ scores but not the mother's HTQ scores was identified as a

significant risk factor of moderate effect size for their child to experience PTSD/depression.

Evidence from comparative studies of refugee children in their homeland versus those in resettlement suggested that factors in refugee children's environment can have the potential to provide a buffering effect for children in the presence of parental PTSD. Ahmad et al. (2008) and Wahlsten et al. (2001) compared two groups of parent-child groups, one living in the homeland and one in exile. They found that despite fathers presenting with higher frequency of PTSD in exile compared to those in the homeland, children's rates of PTSD were lower in the homeland group. Consequently, authors of both studies suggested that child PTSD was not fully determined by parental PTSD. They suggested that the resettlement environment was a potential protective factor for children but not parents. They hypothesised that this may be linked to the easier and faster integration of children into the new environment based on their enrolment in educational settings.

Daud et al. (2008) in their study comparing children of parents with PTSD with children with parents without PTSD, found that children within the traumatised parents' group and not displaying PTSD symptoms themselves had the lowest scores on peer problems and the highest scores on prosocial behaviour than children in the traumatized parents' group who displayed PTSD symptoms themselves and children with parents without PTSD. These findings provide further evidence for the potential protective element of the resettlement environment for children.

Across studies investigating the interaction between parental trauma/PTSD and child trauma/PTSD, a clear association was highlighted. In one sample this association was even found in the absence of children's own trauma history. At the

same time, studies discussed that the interaction is not simple but rather influenced by a variety of factors that need to be considered.

Parental trauma/PTSD and child mental health.

Six studies explored the role of parental trauma/PTSD in association with children's emotional wellbeing other than trauma/PTSD. The associations found noted a consistent negative impact of parental trauma on child outcomes with varying levels of significance and effect sizes across the different child outcomes. Parental PTSD was consistently associated with lower levels of psychosocial adjustment and wellbeing in children as assessed by ratings across SDQ subscales and total scale and ITIA (Dalgaard, Todd, Daniel, & Montgomery, 2016; Daud, af Klinteberg, & Rydelius, 2008; Daud & Rydelius, 2009). Daud and colleagues (2008, 2009) compared a variety of mental health outcomes for children with tortured and traumatised parents versus non-traumatised parents. Authors investigated differences between children in the traumatised parents' group, comparing children displaying PTSD related symptoms versus those not displaying PTSD related symptoms. They noted significant differences of small to medium effect sizes on subscales of emotionality, peer problems, prosocial behaviours, and psychological wellbeing in favour of children not displaying PTSD related symptoms. Further, Javanbakht et al. (2018) assessed refugee children's mental health within 1 month of their arrival and investigated factors impacting on children's levels of anxiety. They found that maternal levels of PTSD, but not paternal levels, significantly contributed to a predictive model for children's anxiety (Javanbakht Rosenberg, Haddad, & Arfken 2018). This latter finding might suggest a gendered element to the experience of distress within Middle Eastern refugee families, which has been raised as a question by some researchers such as Montgomery (2008b). Additionally, in the context of

parenting roles within Middle Eastern cultures, the role of maternal factors on child outcomes could be due to mothers being mainly responsible for the care of children.

In addition to the impact of parental PTSD on child emotional wellbeing, some studies explored the association between parental PTSD and children's cognitive functioning. They compared two groups of children, one group of children had parents with PTSD and the other had parents without PTSD. Neither of the children had direct trauma experience. They found that parental PTSD was associated with children's levels of attention and hyperactivity (small to large effect sizes), as measured by both teacher and self-report (Daud, af Klinteberg, & Rydelius, 2008; Daud & Rydelius, 2009). In line with these findings, children of traumatized parents were found to perform significantly lower (strong effect sizes) on assessments of cognitive function (Daud, af Klinteberg, & Rydelius, 2008; Daud & Rydelius, 2009). These findings provide additional insights into the breath of the interfering impact of parental PTSD on children's emotional wellbeing.

Similar to observations made between the impact of trauma experiences and children's expression of PTSD symptoms, traumatic experiences by parents or other family members were found to be associated with emotional struggles in children such as difficulty sleeping (Montgomery & Foldspang, 2001) and symptoms of anxiety, depression, aggression and emotional imbalances (Montgomery & Foldspang, 2006). Montgomery and colleages (2006) explored associations between specific parental trauma experiences and related behavioural expressions in children. They report that the strongest significant correlation existed between maternal torture and the child destroying things. A small significant association was found between the father having disappeared and the children disobeying their parents, and a

medium strong association between mother tortured and/or father disappeared and children experiencing fear of the future.

These findings strengthen the notion of traumatic experiences influencing the whole family and point towards a relational element within the context of parental health and its impact on children's outcomes. This was suggested by Dalgaard et al. (2016), who noted that children without their own traumatic experiences but at least one parent with PTSD, while not significant, presented with lower levels of attachment security than those of non-traumatised parents. This appears to be of a bi-directional nature, with Daud et al. (2008) suggesting that a good relation to family could function as a protective factor within families of traumatised parents.

Overall, these findings suggest that parental PTSD has a negative impact on children's psychosocial adjustment and functioning. It further points towards a relational and gendered element within the transactional process between parents and children. Studies highlighted especially factors related to mothers on child outcomes and the protective elements as well as vulnerabilities within the association between parental trauma/PTSD and related child mental health outcomes.

Parental Mental Health and Child Outcomes

The impact of parental mental health on children's outcomes was considered across 5 studies. An interaction between parental and children's mental health was consistently found with predominantly significant associations of medium to large effect sizes supporting the magnitude of these findings (Almqvist & Broberg, 1999; Dalgaard, Todd, Daniel, & Montgomery, 2016; Hosin Moore, & Gaitanou, 2006; Javanbakht Rosenberg, Haddad, & Arfken 2018; Mghir, Freed, Raskin, & Katon, 1995). Within this context, while two studies noted the general negative impact of parental distress on children's adjustment (Dalgaard, Todd, Daniel, & Montgomery,

2016; Hosin Moore, & Gaitanou, 2006), three studies noted that rather than paternal mental health, it was mother's mental health that predominantly predicted children's mental health and general adaptation outcomes with medium to large effects (Almqvist & Broberg, 1999; Dalgaard, Todd, Daniel, & Montgomery, 2016; Hosin Moore, & Gaitanou, 2006; Javanbakht Rosenberg, Haddad, & Arfken 2018; Mghir, Freed, Raskin, & Katon, 1995).

Particularly maternal depression was identified as a moderately strong determinant on children's mental health such as children's experience of symptoms associated with anxiety (Javanbakht, Rosenberg, Haddad, & Arfken, 2018) and children's levels of PTSD/depression (Mghir, Freed, Raskin, & Katon, 1995). In addition to maternal depression, maternal anxiety was determined as the second strongest predictor for children's anxiety symptoms severity (Javanbakht Rosenberg, Haddad, & Arfken, 2018). These observations were made following a period of resettlement for children aged 12 to 24 years of age (Mghir, Freed, Raskin, & Katon, 1995) as well as directly at arrival for children aged 6 to 18 years of age (Javanbakht Rosenberg, Haddad, & Arfken, 2018). While mother's poor mental health was identified as a consistently significant risk factor for poor mental health outcomes in children, Almqvist et al. (1999) also suggested that emotional wellbeing in the mother can act as a facilitator for children's emotional well-being. One study investigating the differences between parent and self-rated assessment of children's mental health identified that while mainly mothers completed the assessments, father's mental health predicted differences between ratings (Montgomery, 2008b). Montgomery (2008b) suggested that this points towards emotional distress in refugee families having a gendered and generational element, which needs to be understood further.

In addition to the repeated finding of the importance of maternal factors, overall findings note an association between parent and child mental health. Further, while poor maternal health was noted as risk factor, good maternal health was suggested to be a protective factor.

Parent-Child Interaction and Child Mental Health

Eight studies explored factors related to the parent-child relationship and child mental health outcomes. Factors identified of significance within this domain for Middle Eastern refugee families were the positive association between attachment and children's psychosocial adjustment with small to medium effect sizes. Within the domain of attachment, the role of family communication was investigated which suggested its importance for the nature of attachment between parents and children with a strong significant association being suggested between an unfiltered style of communication and insecure attachment (Dalgaard, Todd, Daniel, & Montgomery, 2016). Authors referred to unfiltered speech as parents referring to their trauma were unaware their children were present or able to overhear them and consequently children used their imagination to fill in gaps between the pieces of parents' narratives. Fathers engaging in more punitive parenting behaviours such as beating the child, was identified as the second strongest predictor, following parental trauma experience, with a large effect size and predicted arousal symptomatology in children. Similarly, parental or parent-child interactions in the resettlement context in addition to parents' traumatic events prior to resettlement made significant predictions to children experiencing various types of anxiety. Behaviours identified within those contexts were of a punitive nature such as increased scolding or physical punishment. In contrast to children's arousal symptomatology, across the different types of anxiety, maternal behaviours, rather than paternal behaviours contributed

significantly to the predictive models of children's anxiety (Montgomery, 1998) as well as PTSD symptom complex (Montgomery & Foldspang, 2006). For children's arousal symptomatology, father's engagement in frequent scolding behaviour was associated with sleep difficulties in children (Montgomery & Foldspang, 2001). The risk and protective nature of parental behaviours was found to be the only covariate, with a medium effect size, differentiating between children at a follow-up time-point as either spared or traumatized, noting the important protective nature of maternal behaviour on the long-term outcomes of children (Montgomery, 2010).

Across these findings, the difference of the maternal versus paternal factors are supported. In addition to these parental factors, processes within the family system were identified as being of importance. Family factors that were identified were marital harmony (Almqvist & Broberg, 1999) and adaptive family functioning, which were associated with children's adaptation/adjustment with medium to large effect sizes (Dalgaard & Montgomery, 2017). A pile-up of stressors on the family/parents and role reversal between parents and children as family functioning factors predicted 22% of the variance of children's psychosocial adjustment scores; both variables were positively correlated with total SDQ scores (Dalgaard & Montgomery, 2017).

Again, the potential bi-directional nature needs to be considered. Trentacosta et al., (2016) discussed that depressive symptoms in children were significantly negatively associated with the parent-child relationship to a medium effect size. Further, they found that children's positive relationship with parents correlated moderately strongly with positive feelings about school. No association was found between parent-child relationship and children's PTSD symptoms.

Overall, these findings highlight the behaviours and characteristics within the family system that act as both risk factors and buffers for children from the Middle east in high-income resettlement contexts.

Discussion

Summary of Findings

This narrative systematic review examined the interaction between a variety of family/parental factors and child outcomes in refugee families who had been forced to leave their home countries in the Middle East and resettled in Western high-income countries. Nineteen studies fulfilled inclusion criteria, summarised results from 10 separate samples assessed between 1987 and 2017, with the studies having been published between 1995 and 2018. Assessment of the quality of included studies highlighted five studies being of high quality, 13 being of medium quality, and one study being of low quality. None of the articles made statements regarding sample size or power calculating, impacting on being able to conclude if results are valid or due to chance. Sample sizes varied across studies between 30 and 312 children. Especially in the domain assessing the external validity of studies, limitations were observed regarding the representativeness of the included sample of the population and setting. Across studies little consistency of assessment measures was found especially for family or parental factors other than PTSD and mental health. The only consistent parent assessment measures which have been standardised for Middle Eastern refugee adults were the HTQ and HSCL-25. Other family and parental factors were often investigated via structured clinical interviews that were then quantified. Similarly, only a few measures were used repeatedly for the assessment of child outcomes, those more frequently used were the SDQ, CBCL, and versions of the HTQ. These methodological limitations and variations, the small

number of studies, heterogeneity of studies (e.g. differences in assessment measures, child and parent/family factors), highlight the limited evidence base. Consequently, findings from this review provide merely preliminary insights into how, within refugee families from the Middle East resettled in high-income countries, parental and family functioning influence child and youth psychosocial outcomes.

The journey of refugees is known to commonly expose families to multiple prolonged trauma ranging from the loss of resources, identity, and family members, to witnessing or experiencing violent acts (Tinghög et al., 2017). It is clear that refugee child and youth outcomes, particularly mental health outcomes and psychosocial adjustment, need to be understood within the family context. The interaction between parental PTSD and trauma was consistently identified as a risk factor for poorer child mental health. This review strongly indicates that poor parental mental health such as parental anxiety, depression, PTSD, as well as trauma experience even in the absence of children's own trauma or torture history impacts on children's psychosocial adjustment. While the impact of parental mental health on child outcomes generally is understood (England & Sim, 2009), the particularly high rates of mental health difficulties in adult refugees highlight that refugee children from the Middle East are likely at a higher risk for poorer outcomes due to parental or family factors.

Additionally, studies explored the breath of parental and family factors that have the potential to either positively or negatively impact on children's outcomes and are suggested to be considered when assessing children or families for clinical as well as research purposes. The more complex pathways of the interaction between parental and family factors on child outcomes noted the importance of pre and post-settlement factors.

Given the reported high prevalence rates of mental health difficulties in adult refugees (Bogic, Njoku, & Priebe 2015), these findings have implications for policies and service delivery. Findings highlight the importance of mental health assessments and interventions being offered at a systemic level involving close collaboration between adult and child services. This needs to be communicated in policies to support services to change their mode of working and support professionals to work in a more systemic and interagency manner. Further, due to the risk factors associated with parental mental health for child outcomes, it is recommended that the screening of parental mental health is incorporated in the health screening and assessment process of refugees at the early stages of resettlement. Postponing the assessment could negatively impact on children's outcomes and families' integration. It is strongly recommended that professionals during the assessment of families consider the pre- and post-settlement experiences as made not only by an individual but rather the whole family as there is some evidence for child outcomes such as sleep behaviours being impacted by trauma experiences made by family members without children's direct exposure (Montgomery & Foldspang, 2006). Therefore, it is recommended that professionals gain an extensive narrative of parents' resettlement journey and inquire about parents' trauma experience even if this happened prior to the child's birth. Findings are in line with trends and recommendations discussed in the general refugee literature noting the need to assess children within the context of their broader family environment (Fazel & Betancourt, 2018). It calls for thorough family assessments to identify risk factors within the family unit and select appropriate interventions and supports required not only to support children's wellbeing but also provide the required support to parents, such as

support for their own mental health. This model of working needs to be supported by policy.

Similarly, to findings about complex pathways of trauma transmission as explored by Yehuda et al. (2008), the nature of association between parental and child mental health is complex. Across predictive models, parental factors predicted child outcomes, such as PTSD or anxiety, as covariates with other factors such as pre-settlement living conditions, pre-settlement parental trauma, parent-child interactions in the resettlement context, and parental social demographics. The role of factors such as peer relations (Daud, af Klinteberg, & Rydelius, 2008) and, as hypothesised by Ahmed et al., (2008), integration spaces within children's environment outside of the family unit appear to have a protective function for children. For resettlement countries, this highlights the need to maximise resources available to children to support them with their adjustment and integration to the new culture and environment and establish social connections. In this context, it is worth considering children's journey prior to resettlement likely having involved children growing up in deprived environments lacking educational and social experiences. Therefore, countries need to consider providing extra resources to support children's development to enable them to reach the same outcomes as peers.

Additionally, parent-child relational factors impacted child outcomes suggesting that during family assessments, clinicians need to inquire and observe the parent-child relationship and interaction patterns informed by an understanding of family structures and dynamics within Middle Eastern families. Depending on the service context, professionals might require access to cultural training to be able to account for the cultural variables within their assessment. Professionals need to be cognisant of the impact of trauma on PTSD on children and parents and potentially

provide psychoeducation about the impact of trauma on individuals and potentially help parents to make sense of their children's behaviour as well as in some instances provide access to culturally adapted parenting interventions. These elements might strengthen the parent-child relation, which was identified as a protective factor across studies even in the context of parents with trauma experience and PTSD symptomatology (Trentacosta et al., 2016).

Further, while only assessed in one study and requiring further research to support these findings, children's cognitive functioning was impacted by having traumatized parents. This has implications for refugee children attending educational institutions in the resettled country and potentially being referred by teachers to mental health services due to children presenting as unable to engage with educational settings. Teachers and educational systems might require training or guidance on how emotional difficulties might be expressed by children in reaction to the impact of their own mental health difficulties or parental mental health difficulties (Daud, af Klinteberg, & Rydelius, 2008; Daud & Rydelius, 2009). Further, the interaction of parental mental health on children's attention, cognitive ability, and activity levels needs to be considered and can potentially provide a challenge to professionals to distinguish between educational difficulties as a reaction to own and/or parental mental health or based on cognitive functioning requiring the provision of access to specialised educational settings.

Additionally, across some of the parental dimensions such as parental mental health or parental demographic information, a gendered element to the experience of distress in refugee families is indicated. Overall, maternal factors appear to be more significant to child outcomes, a pattern consistent within the trauma transmission literature (Yehuda, Halligan, & Bierer, 2001), exploring not just social factors but

considering the role of neurobiological factors, which goes beyond findings from this review. In the context of the findings from this review in the context of the Middle Eastern culture, the role of maternal factors on child outcomes might be at least partially related to the central role of the mother in parenting within Middle Eastern families. This suggests a gendered element within the association between parental factors and child outcomes which we found across studies who considered the role of the relationship between parent and children, noting its protective nature and at the same time a poor or negative parent-child interaction being correlated with difficulties experienced by children and youth.

Strengths and Limitations

Findings outlined need to be understood and interpreted in the context of the limitations and strengths of this review. Due to the discussed quality, small number of available studies, and methodological heterogeneity of studies, findings need to be taken as providing preliminary insights requiring further exploration. These factors have potential implications for findings being transferable to other samples and populations. Nevertheless, by addressing recommendations made by Wyman (2003) and Schweitzer, Ungar, Zamoanga, and Szapocznik (2010) this review considered refugee's origin and resettlement country increasing homogeneity of samples in comparison to previous systematic reviews. This increases the chance that consistent associations discussed in this review likely apply to other Middle Eastern refugee families having resettled in western-world high-income countries. Further, the discussed variability in assessment measures added to the heterogeneity between studies contributing to differences in effect sizes of associations and interfering with the ability to summarise findings in a meta-analytical manner. Lastly, based on the nature and methodologies applied across studies, with studies being mainly cross-

sectional, it is not possible to establish causality between factors discussed but rather associations, which need to be further explored but provide implications for researchers and professionals working with this population.

Directions for Practice and Future Research

The findings of the review provide insight into directions for future research. Firstly, associations found between parental factors and child factors need to be further investigated to gain further understandings of the interaction of different pre-settlement and post-settlement factors to start establishing a comprehensive pathway model for the different child outcomes identified in this review, particularly child PTSD and mental health. An improved understanding will aid the development of specified interventions addressing vulnerability factors and strengthening resilience factors for refugee families and children.

Nevertheless, more research is necessary to understand changes in parenting behaviours within this cohort and to identify culturally acceptable and effective interventions fostering strong parent-child relationships and therefore fostering resilience within the family.

The complex nature of the interaction between family factors and child outcomes as outlined in other relevant models (Bryant et al., 2018; Yehuda, Bell, Bierer, & Schmeidler, 2008) highlights the potential of the resettlement context as one factor that can have a buffering effect for children in the context of their parents' mental health difficulties. This highlights the importance of understanding the breath of factors in the resettlement environment that facilitate the protective function to be able to further strengthen them. In this context, the different effects of the resettlement context for children and parents needs to be understood further to maximise the resources within the environment supporting families' adjustment.

Lastly, on the basis of the variety of measures utilised across studies, the need for more agreement among researchers is required about the utility of the assessment measures. Consistency in measurements aids the development of models for understanding child outcomes and will inform the selection of most appropriate interventions and developing services and policies maximising refugee adaptation and wellbeing.

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Appendix A
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Journal of Child and Family Studies

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In general, the journal follows the recommendations of the 2010 Publication Manual of the American Psychological Association (Sixth Edition), and it is suggested that contributors refer to this publication. The research described in the manuscripts should be consistent with generally accepted standards of ethical practice. The anonymity of subjects and participants must be protected and identifying information omitted from the manuscript.

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Abstract

The abstract should be between 200 and 250 words. It should be concise and complete in itself without reference to the body of the paper. In addition to a general statement about the field of research as the first sentence, abstracts of experimental/research papers should contain a brief summary of the paper's purpose, method (design of the study, main outcome measures, and age range of subjects), results (major findings), and clinical significance. Abstracts of review papers should include a general statement about research area being reviewed as the first sentence, it should contain a brief summary of the review's purpose, method (data sources, study selection process), results (methods of data synthesis and key findings), and conclusions (summary statement of what is known, including potential applications

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A list of 5 key words is to be provided directly below the abstract. Key words should express the precise content of the manuscript, as they are used for indexing purposes.

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Text should begin on the second numbered page. Authors are advised to spell out all abbreviations (other than units of measure) the first time they are used. Do not use footnotes to the text. When using direct quotations from another publication, cite the page number for the quotation in the text, immediately after the quotation. When reporting statistically significant results, include the statistical test used, the value of the test statistic, degrees of freedom, and p values. In the discussion include an evaluation of implications (clinical, policy, training or otherwise) of the study when appropriate. Also, discuss limitations in study design or execution that may limit interpretation of the data and generalizability of the findings. Do not use any sub-headings in the Introduction or Discussion sections.

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Book:

McBee, L. (2008). Mindfulness-based elder care: A CAM model for frail elders and their caregivers. New York: Springer.

Book Chapter:

Singh, N.N., Winton, A.S.W., Singh, J., McAleavey, K., Wahler, R.G., & Sabaawi, M. (2006). Mindfulness-based caregiving and support. In J.K. Luiselli (Ed.), Antecedent assessment and intervention: Supporting children and adults with developmental disabilities in community settings (pp. 269-290). Baltimore, MD: Paul H. Brookes.

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Tables follow the Reference section. Create tables using the table creation and editing feature of your word processing software (e.g., Word) instead of spreadsheet programs. Tables that are a single column are actually lists and should be included in the text as such. Number tables consecutively using Arabic numerals in order of appearance in the text. Cite each table in the text and note approximately where it should be placed. Type each table on a separate page with the title and legend included. Double-space the table and any footnotes to it. Set each separate entry in a single table cell. Do not use underlining. Properly align numbers, both horizontally and vertically. Use brief headings for columns. If abbreviations are necessary, define them in a key at the bottom of the table. Keep footnotes to a minimum; if necessary, use superscript letters to denote them.

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Figures follow the tables. Figures must be submitted in electronic form. Figures and illustrations (photographs, drawings, diagrams, and charts) are to be numbered in one consecutive series of Arabic numerals.

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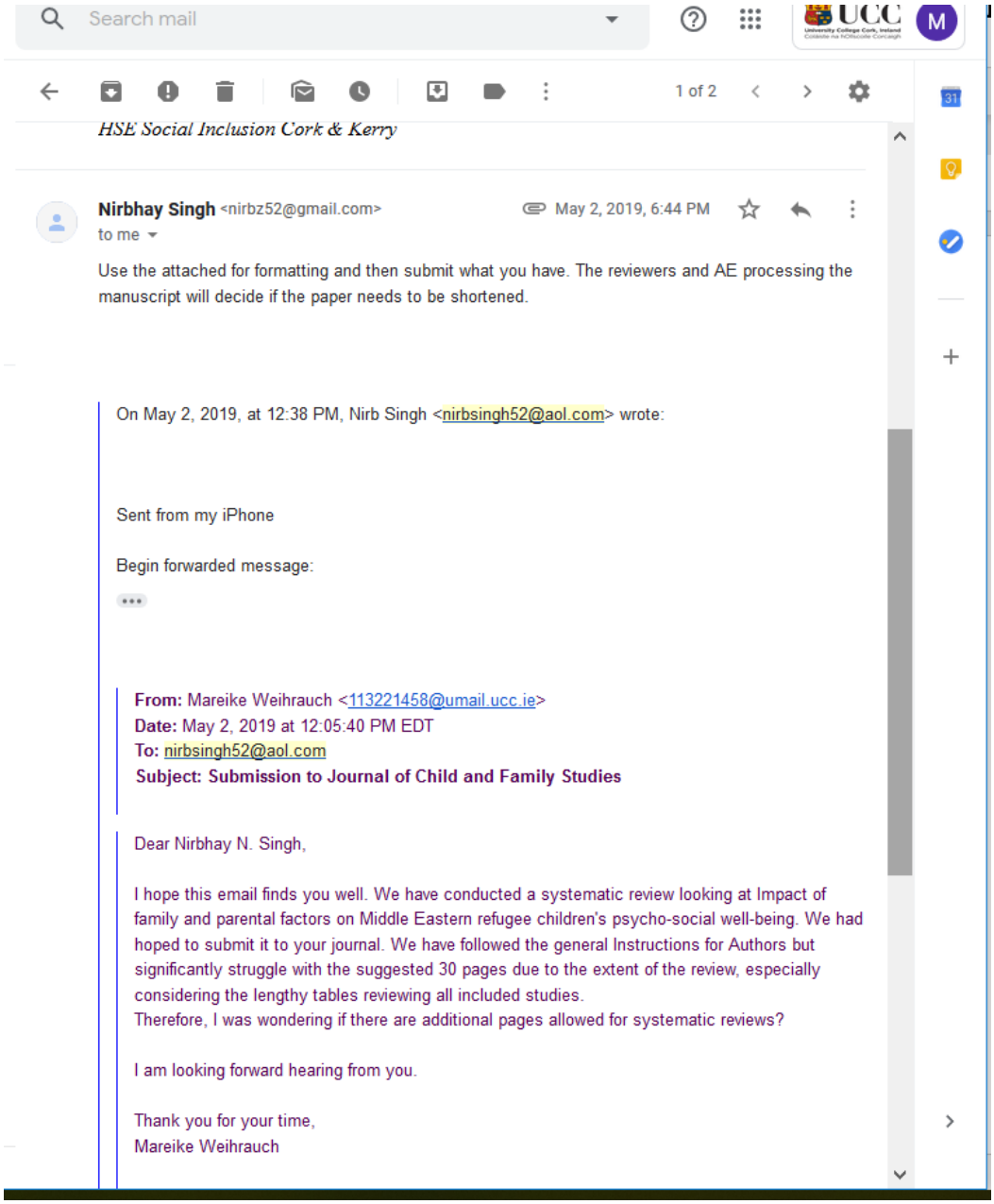
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Date: May 2, 2019 at 12:05:40 PM EDT
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Dear Nirbhay N. Singh,
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Therefore, I was wondering if there are additional pages allowed for systematic reviews?
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Thank you for your time,
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Appendix B
PRISMA Flowchart

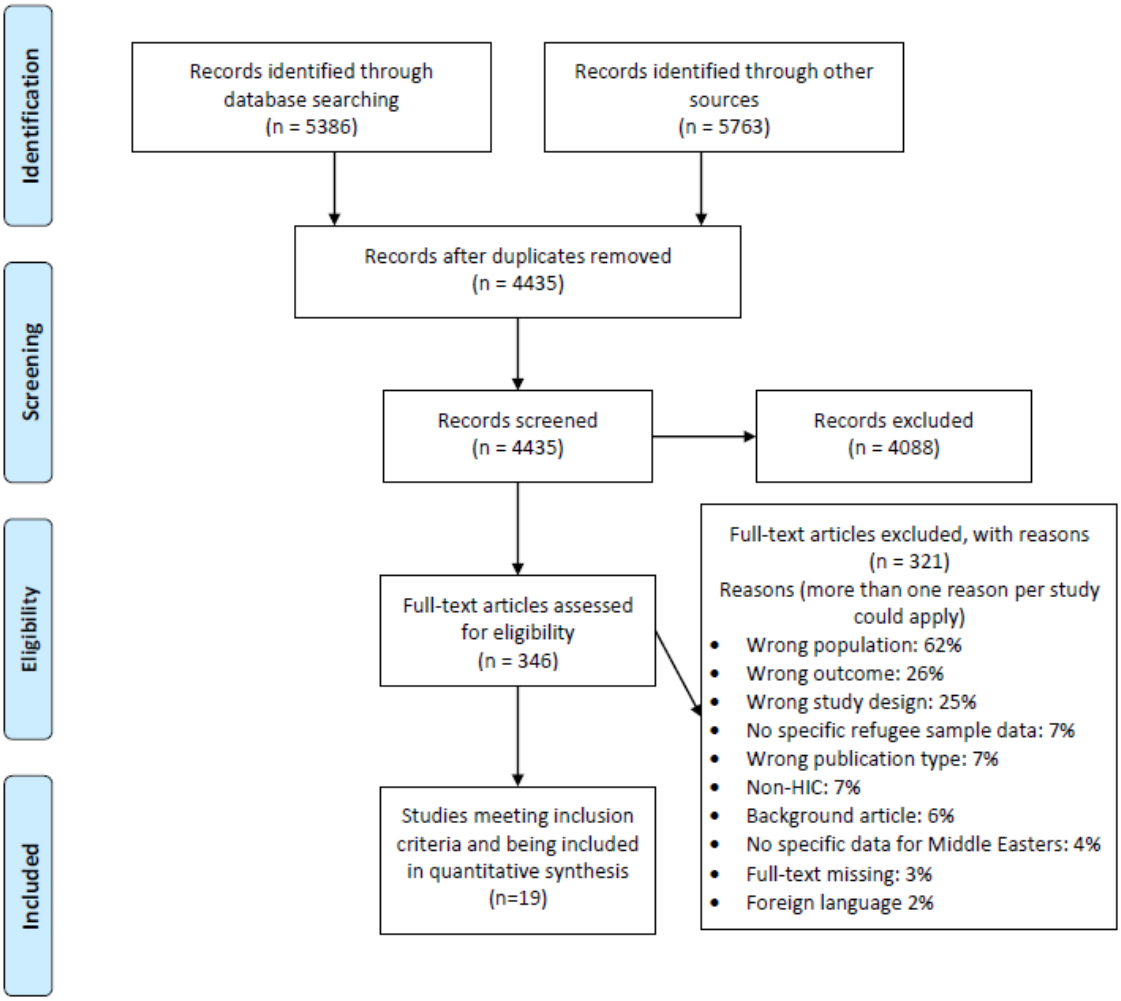


Figure B1: PRISMA Flowchart of study selection process

Appendix C

Table C1

*Summary of Results according to Associations between various Family and Child Factors**

Authors	Children trauma experiences	Parents trauma experiences	Key findings to impact of family factors on child outcomes
Parental Trauma or PTSD and Children's PTSD			
Ahmad et al,. (2008)	Yes 6-18 years old	Yes	HLG: PTSD frequency sign. higher in mothers than fathers (Z=-4.2, p<.001) while no sign. differences were found between children and parents EG: PTSD frequency sign. higher both in mothers and fathers than children's (Z=5.8 and 5.0, p<.001), no sign. differences between parents ➔ No interaction parental PTSD & Child PTSD Child PTSD: Multivariate ANOVA: lifetime in exile interacting with fathers' PTSD as the only sign. between-subject effect for children's PTSD (F=12.5, p<.001, d=.419, small effect size)
Almqvist et al., (1999)	Yes 6-10 years old	Yes	Parental traumatic stress exposure was identified as a risk factor for children, with it being associated with severe traumatic stress exposure in children (r=.37, p<.02, medium effect size)
Daud et al., (2008)[2]	No* 6-17 years old	Yes PTSD diagnosis	Children with TP: 31 children (17 boys & 14 girls) showed PTSD-related symptoms; Children with NTP – 0 children showed PTSD-related symptoms (RD: .775, OR ∞, large effect size)
Daud et al., (2009)[2]	No* 7- 16 years old	Yes PTSD diagnosis	When scores for children in both groups (TP vs NTP) were compared, significant associations between parental trauma and children's PTSD symptoms (p<.001, η^2=.54, large effect size) was found.
Mghir et al., (1995)	Yes 12-24 years	Yes	A high score on the total HTQ score by the father (p<.05, r=.31, medium effect size) was correlated with adolescent's/young adult's PTSD/depression.
Montgomery (1998)[3]	Yes 3-15 years	Yes	Important predictors for children's reexperiences symptomatology were beaten or kicked by an official (OR 11.0, p<.001, large effect size), mother tortured (OR 6.5, p<.0005, medium effect size), father exposed to organised violence after the birth of the child (OR 4.6, p<.0005, medium effect size), and lived in refugee camp outside the home country (OR ∞, p<.01, large effect size) Important predictors for children's arousal symptomatology were mother tortured before the birth of child (OR 26.6, p<.005, large effect size), having been beaten or kicked by official (OR 12.4, p<.005, large effect size), father beating the child more (OR 7.4, p<.0005, large effect size); having lived in refugee camp outside the home country (OR 4.8, p<.025, medium effect size), and in extended model sibling left being in home country (OR 5.6, p<.0005, medium effect size).
Montgomery et al., (2006)[3]	Yes 3-15 years old	Yes	Two violence experiences (Mother tortured (OR 8.2, p<.005, large effect size) & father disappeared (OR 3.2, p<.05, small effect size)) were identified that independently and significantly predicted PTSD symptom complex, in concordance with age ("child 7-11 years old"; OR .5; p<.05, small effect size) two behavioural, and three social background predictors.
Sundelin Wahlsten et al., (2001)	Yes 6-18 years old	Yes	Kurdistanian and Swedish children reported no significant differences in trauma levels. Children in both samples showed no significant differences in PTSD symptom scores except in the re-experiencing symptom cluster (Swedish children had higher scores than Kurdistanian children), Kurdistanian parents showed significantly higher lifetime and current PTSD scores than Swedish parents. *Interpretation by authors:* *Despite Kurdistanian mothers' high PTSD symptoms scores, their children have relatively low symptoms scores; suggests that their mother's PTSD did not contaminate the children in this study, not supporting the contagion hypothesis.*
Parental Trauma or PTSD and Children's mental health/ psychosocial wellbeing			

Dalgaard et al., (2016)[1]	No 4-9 years old	Yes PTSD diagnosis	Parental PTSD and children's psychosocial adjustment and attachment security were correlated at a non-significant level in the expected direction.
Daud et al., (2008)[2]	No 6-17 years old	Yes PTSD diagnosis	Children in non-traumatized families had higher scores regarding ITIA psychological wellbeing ($p<.05$, $d=.238$, small effect size) and total score ($p<.05$, $d=.47$, small effect size) and tendency to show better relation to family ($p=.06$, $d=.425$, small effect size) than children from traumatized families. No sign. difference between children with vs without PTSD related symptoms in TP group. Children without PTSD related symptoms (independent of family background) had more similar values on sub-scale relation to family and total score than children with PTSD-related symptoms and had more positive scores on SDQ subscales ($p<.001$) Children with TP and not showing PTSD-related symptoms had highest scoring on relation to others. TP group & SDQ scores: Children without traumatised parents scored sign. lower on Emotionality ($p<.001$, $d=-886$, large effect size), Hyperactivity ($p<.01$, $d=.883$, large effect size), SDQ total ($p<.001$, $d=.987$, large effect size) Children without PTSD-related symptoms with TP had lowest scores on emotionality, hyperactivity, and peer problems and highest scores on prosocial behaviour. Within TP group, significant differences re resilience and protective factors in favour to children not showing PTSD related symptoms were found as follows: emotionality ($p<.01$, $d=.67$, medium effect size), peer problems ($p<.001$, $d=.291$, small effect size), prosocial behaviour ($p<.05$, $d=-.64$, medium effect size), and total score ($p<.001$, $d=.519$, medium effect size), also tended to have higher scores on psychological wellbeing ($p<.05$, $d=-.596$, medium effect size), total score ($p<.05$, $d=-.319$, small effect size), and relation to family (ns, $d=-.201$, small effect size).
Daud et al., (2009)[2]	No 7- 16 years old	Yes PTSD diagnosis	TP group, 65% (n=13) of boys and 30% (n=6) of girl were found to have ADHD diagnosis, compared with 5% of boys and 10% of girls in NTP group. 12 out of those 13 boys and 5 out of those 6 girls with ADHD diagnosis were also diagnosed with PTSD, this did not appear in NTP group. 18% children from TP group compared with 90% children from NTP group had neither (ADHD or PTSD) diagnosis. When scores for children in both groups (TP vs NTP) were compared, significant associations between parental trauma and ADHD (self-report, $p<.05$, $\eta^2=.07$, medium effect size), and teacher's ratings of children's hyperactivity (SDQ; $p<.05$, $\eta^2=.05$, small effect size), YCI attention ($p<.001$, $\eta^2=.31$, large effect size), and YCI total ($p<.001$, $\eta^2=.24$, large effect size). A non-significant association with a small effect size ($\eta^2=.04$) between parental trauma and teacher-rated children's attention (SDQ) was found.
Javanbakht et al., (2018)	Yes 6-17 Year old	Yes	All measures of maternal, but not paternal, symptom severity was associated with anxiety symptom severity in the child, whereby, maternal depression symptom severity made the larges statistically significant unique contribution to children's anxiety symptom severity ($\beta=7.37$, $p=.003$), followed by maternal anxiety symptom severity ($\beta=4.66$, $p=.041$) and lastly, by maternal PTSD symptom severity ($\beta=.33$, $p<.001$).
Montgomery et al., (2001)[3]	Yes 3-15 years old	Yes	The strongest predictors for sleep disturbances were grandparents' violence death before the child's birth (OR 3.3, $p<.025$, small effect size), father scolds the child more than previously (OR 3.0, $p<.01$, small effect size), mother tortured (OR 2.4, $p<.05$, small effect size) and one or both parents tortured (OR 2.3, $p<.01$, small effect size).
Montgomery et al., (2006)[3]	Yes 3-15 years old	Yes	Children with a tortured mother and/or disappeared father suffered significantly more often than others from seven out of 12 specific symptoms of anxiety, from 12 out of 13 symptoms of depression, from four out of eight symptoms of aggressions and form four out of nine other emotional symptoms or reactions. Specific symptoms of emotional unbalance also had independent associations with PTSD exposure, the strongest correlate with "mother tortured" being "destroying things" (OR 9.9, $p<.005$, large effect size); the strongest correlate with "father disappeared" being "disobeys parents" (OR 3.1, $p<.01$, small effect size); the strongest correlate with "mother tortured and/or father disappeared" being "fears of future" (OR 4.7, $p<.005$, medium effect size).
Parental Trauma or PTSD and Children's outcomes on IQ assessment			
Daud et al., (2008)[2]	No 6-17 years old	Yes PTSD diagnosis	Children with NTP had significant higher scores at a $p<.001$ level for VIQ ($F=18.8$, $d=.982$, large effect size), PIQ ($F=10.7$, $d=.741$, large effect size), and FSIQ ($F=18.3$, $d=.969$, large effect size) than children with TP (incl. those with or without PTSD/ PTSS). Among children with TP, those not showing PTSD-related symptoms had on average a VIQ of 91.7 vs. 86.7 ($d=.422$, small effect size, significance level was not reported) in the group showing PTSD-related symptoms.
Daud et al., (2009)[2]	No 7- 16 years old	Yes PTSD diagnosis	When scores for children in both groups (TP vs NTP) were compared, significant negative associations between parental trauma and children's performance across WISC-II Indexes was found: Verbal Comprehension ($p<.001$, $\eta^2=.36$, large effect size), Perceptual Reasoning ($p<.001$, $\eta^2=.20$, large effect size), Freedom from distractibility ($p<.05$, $\eta^2=.11$, medium effect size), and Processing Speed ($p<.001$, $\eta^2=.17$, large effect size).
Parental Mental Health and Children's mental health/ psychosocial wellbeing			
Almqvist et	Yes	Yes	Emotional well-being in the mother (Wald: 4.98, $p<.05$, ($r\sim.79$).large effect size) and no reported signs of vulnerability in the child before the experience of war and

al., (1999)	6-10 years old		political violence (Wald: 6.24, p<.01, (r~.99) large effect size) were the factors that most strongly determined emotional well-being in children at the follow-up (percentage correctly predicted 71.05%)
Dalgaard et al., (2016)[1]	No 4-9 years old	Yes PTSD diagnosis	Parental symptoms level of anxiety and depression and children's psychosocial adjustment and attachment security were correlated at a non-significant level in the expected direction; correlation between parental anxiety and children's psychosocial adjustment difficulties had a small effect size (p=.284, r=-.210).
Hosin et al., (2006)	NR (1-14 years)	Yes	Strong significant positive correlation between distressed parents and children's adjustment difficulties (p<.001, r=.625, large effect size) as reported by parents was found.
Javanbakht et al., (2018)	Yes 6-18 ears old	Yes	All measures of maternal, but not paternal, symptom severity was associated with anxiety symptom severity in the child, whereby, maternal depression symptom severity made the larges statistically significant unique contribution to children's anxiety symptom severity (β=7.37, p=.003), followed by maternal anxiety symptom severity (β=4.66, p=.041) and lastly, by maternal PTSD symptom severity (β=.33, p<.001).
Mghir et al., (1995)	Yes 12-24 years	Yes	Simple significant correlations between parental psychopathology with PTSD/depression in the adolescent and young adults were found: A high score on maternal HSCL-25 total score was correlated with adolescent's/young adult's PTSD/depression (p.<05, r=.35, medium effect size), a high score on the HSLC-25 depression score by mother was correlated with adolescent's/young adult's PTSD/depression (p<.05, r=.30, medium effect size. Only the variable of mother scoring high on total HSCL-25 retained its statistical significance in the discriminant analysis because of high correlations among the three independent variables (Wilks's Lambda: .8764; R<.01).
Parental Mental Health and Children's general adaption			
Almqvist et al., (1999)	Yes 6-10 years old	Yes	Decreased well-being in the mother (p=.011, r=-.292, OR=.003, strongest predictor in stepwise logistic regression, medium effect size) and decreased mental health in father (p=.07, r=.156, OR=6.394, 5th/last strongest predictor in stepwise logistic regression, medium effect size) were found to relate to lower ratings of general adaptation in children
Parent-Child relationship/ interaction and Child mental health/ wellbeing			
Dalgaard et al., (2016)[1]	No 4-9 years old	Yes PTSD diagnosis	A borderline significant negative correlation between children's Global Security Score and psychosocial adjustment difficulties was found (p=.056, r=-.372, medium effect size). Further, the Global Security Score was found to be negatively correlated with Internalizing difficulties (p=.207, r=-.251, small effect size) and significantly negatively correlated with Externalizing difficulties (p=.0464, r=-.388, medium effect size). Correlations between Secure/Insecure attachment variables and SDQ totals (p=.322, r=.198, small effect size), Internalizing difficulties (p=.949, r=.013, no effect) and Externalizing difficulties (p=.124, r=.303, medium effect size) were not significant but were in the expected direction. Significance was found for the entire contingency table for Intra-Family Communication and Attachment (p=.021, V=.5706, large effect size) Sign. association between secure/insecure and unfiltered style of communication was found (p=.008, OR ∞, large effect size). The other associations between secure/ insecure and communication styles (Modulated Disclosure style, Open Communication, Silencing) were found non-significant.
Montgomery (1998)[3]	Yes 3-15 years	Yes	Father beating the child more (OR 7.4, p<.0005, large effect size) was the second strongest predictor for children's arousal symptomatology following parental traumatic experience. Strong predictors for children's regressive anxiety were father's death (OR ∞, p<.025, large effect size), having lived in refugee camp outside of home country (OR 44.4, p<.0005, large effect size; was strengthened if the first experience had occurred the three years prior to arrival in Denmark), Palestinian ethnicity (OR 26.5, p<.0005, large effect size), separated from father more than 1 months (OR 4.9, p<.001, medium effect size), mother scolds more (OR 4.6, p<.025, medium effect size), mother talks more with child (OR 2.9, p<.025, small effect size); increasing age was modifying factor (OR 0.8, p<.0005, no effect). Strong predictors for children's future anxiety were lived on refugee camp outside of home country (OR 9.8, p<.005, large effect size), mother detained (OR 7.3, p<.0005, large effect size), father tortured after the birth of the child (OR 4.6, p<.0005, medium effect size), mother hits or punishes child more (OR 2.7, p<.025, small effect size), and in the extended model father disappeared (OR 4.7, p<.001, medium effect size); strong modifying factors were child detained (OR 0.2, p<.10, large effect size), mother cuddles child more (OR 0.3, p<.0005, medium effect size), and in extended analysis increased responsibility (OR 0.2, p<.0005, large effect size). Strong predictors for children's separation anxiety father dead (OR -> ∞, p<.005, large effect size), father hits or punishes more in non-extended model (OR ∞, p<.025, large effect size), mother hits or punishes more (OR 19.0, p<.005, large effect size), lived in refugee camp outside home country (OR 7.6, p<.005, large effect size),and in extended model loss of opportunities for play (OR 5.1, p<.0005, medium effect size) and mother has an occupation (OR 5.4, p<.001, medium effect size). Increasing age was an important modifying factor (OR 0.2, p<.025, large effect size).

			Strong predictors for children's clinical anxiety were mother hits/punishes the child more than before (OR 12.6, p<.0005, large effect size), lived under conditions of war (predictor was strengthened when the first occurrence was within two years prior to arrival in Denmark, (OR 6.8, p<.025, large effect size), mother tortured (OR 2.8, p<.10, small effect size), and in extended model loss of opportunities for play for over one months (OR 7.0, p<.0005, large effect size); Mother scolds child more was the strongest modifying factor (OR 0.2, p<.001, large effect size).
Montgomery (2010)[4]	Yes 11-23 years old	Yes	At follow-up, "speaks frequently with mother about problems" (OR=3.72, p<.05, medium effect size) only covariate that sign. distinguished between spared and traumatized children based on children's self-reports.
Montgomery et al., (2001)[3]	Yes 3-15 years old	Yes	One of the strongest predictors for sleep disturbances after were grandparents' violence death before the child's birth, was father scolds the child more than previously (OR 3.0, p<.01, small effect size). Being accompanied to Denmark by both parents meant a reduced risk of sleep disturbance (OR 0.3, p<.0005, medium effect size).
Montgomery et al., (2006)[3]	Yes 3-15 years old	Yes	Two violence experiences in concordance with age, two behavioural ("mother cuddles the child more" (OR .4, p<.05, medium effect size), "child informed about parents' detention" (OR 2.6, p<.05, small effect size)) and three social background variables predicted children's PTSD symptom complex.
Trentacosta et al., (2016)	Yes 8-22 years old	Yes	Older youth reported more traumatic stress symptoms (p<.05, r=.14, small effect size), and reported less supportive relationships with parents (p<.05, r=-.14, small effect size) and less positive feelings about school (p<.01, r=-.23, small effect size) Depressive symptoms were sign. negatively correlated with relationship with parents (p<.01; r=-.32, medium effect size). Supportive relationship with parents and positive feelings about school were positively correlated (p<.01; r=.47, medium effect size); supportive relationship with parents was not significantly associated with traumatic stress symptoms; Youth who reported more supportive relationship with parents endorsed fewer symptoms of depression (p<.01, β=-.32; heaviest weighted item, medium effect size) main effects for traumatic events and supportive relationships with parents were qualified by the statistically significant interaction between those two variables Traumatic events were significantly associated with depressive symptoms when relationship with parents more supportive (β=.43, p<.01, medium effect size) but not when relationship with parents were less supportive (β=.10, p<.05, no effect)
Family functioning and Child mental health/ wellbeing			
Almqvist et al., (1999)	Yes 6-10 years old	Yes	In the logistical regression, marital harmony was identified as the third strongest predictor for good adaptation in children (p=.043, OR 66.357, third strongest predictor, large effect size)
Dalgaard et al., (2017)[1]	No 4-9 years old	Yes PTSD diagnosis	Dimensions of family functioning and total SDQ were found to be all correlated in expected direction but not significant except of Stressor pile-up & SDQ (p=.013, r=.450, medium effect size). Two strongest family functioning variables (family experiences a pile-up of stressor & role reversal between parents and children) were neither significant individually (p>.05) but the overall model was significant (p=.036, R=.47, medium effect size) and this was owned primarily to the contribution of the stressor pile-up variables (standardized β=.377, p=.065) (22% of the variance in total SDQ scores could be predicted by the model) Correlation between total adaptive family functioning and total SDQ (p=.034, r=-.39, medium effect size)
Parental demographic variables or adjustment/acculturation and Child mental health/ wellbeing/ PTSD			
Ahmad et al,. (2008)	Yes 6-18 years old	Yes	Association between PTSD and correlates in family map: Child PTSD showed neg. correlation with maternal education (p: NR, r=.20, small effect size). Additional significant negative correlations were lifetime in Sweden (p: NR, r=.29) and birth in Sweden (p: NR, r=.17).
Mghir et al., (1995)	Yes 12-24 years	Yes	Three immediate family variables had significant simple correlations with PTSD/Depression: Subject's mother not speaking English (p<.01, r=.44, medium effect size), English not spoken at home (p<.01, r=.44, medium effect size), and limited educational level of the subject's mother (p<.05, r=.36, medium effect size); these variables were highly correlated with each other and only the variable English spoken by the mother remained significant in the discriminant analysis (Wilks' Lambda=.6849; R<.01)
Montgomery (2008a)[4]	Yes 3-15 years old	Yes	One-way ANOVA with random effects, the family level explained 2.8% and the individual level explained 97.2% of variance (p>0.1) of externalizing behaviour One-way ANOVA with random effects, the family level explained 16.4% and 83.6% (p<0.05) of variance concerning internalized behaviour Multiple regression for significant predictors of externalizing and internalizing behaviour:

			Externalizing behaviour sign. decreased by mother's education in home country (t=2.82, df=65, p <.01, β=-.23, strongest statistically significant unique contribution), attending school or work (t=2.51, df=127, p<.05, β=-.21) and sign. increased by having witnessed attack on others in Denmark (t=2.33, df=127, p<.05, β=.19) Internalizing behaviour sign. decreased by gender (male, t=2.39, df=124, p<.05, β=-.19) and by mother's education (t=2.91, df=65, p<.005, β=-.23, strongest statistically significant unique contribution), increased by number of traumatic experiences before arrival (t=2.08, df=124, p<.05 β=.16), decreased by number of Danish friends (t=2.30, df=124, p<.05, β=-.18), and increased by number of types of stressful experiences in Denmark (t=2.22, df=124, p<.05, β=.17) and number of types of discriminating experiences in Denmark (t=2.96, df=124, p<.005, β=.23).
Montgomery (2010)[4]	Yes 11-23 years old	Yes	At follow-up, length of father's education in the home country (OR=1.13, p<.05, no effect) and young refugee attending school/work (OR=6.78, p<.05, medium effect size) were only covariates that sign. distinguished between adapted and traumatized children based on children's self-reports.
Montgomery et al., (2006)[3]	Yes 3-15 years old	Yes	Two violence experiences, in concordance with age, two behavioural, and three social background predictors ("father has been vocationally occupied" (OR 9.6, p<.01, large effect size), "father's occupation is private enterprise" (OR 2.8, p<.05, small effect size), "mother has been vocationally occupied" (OR 4.6, p<.005, medium effect size) predicted PTSD symptom complex in children.
Montgomery et al., (2008)[4]	Yes 11-23 years old	Yes	More youth from families with an unemployed father (or mother) experienced being ignored by a teacher (OR .2, p<.005, large effect size), or being teased (OR .3, p<.005, medium effect size), and more youths from families where the father (or mother) did not have an education recognized in Denmark, experienced derogatory remarks (OR .3, p<.005, medium effect size). Indicators of parents' social situation were not associated with the children's social adaptation. Nationality, ethnicity, religion and parents' social situation were not associated with mental problems in the youths.
Parental factors and parent & children's ratings of children's psychosocial adjustment			
Montgomery (2008b)	Yes 11-23 years old	Yes	The third/last included positive predictor of differences between self- and parent-rated externalizing scores was "different assessment of whether the young refugee quarrels with his/her father" (B=2.34, SE=.66, p<.001). This was also the strongest positive predictor of differences between self- and parent-rated internalizing scores ("different assessment of whether the young refugee quarrels with his/her father", B=2.2, SE=.87, p<.05,), present age (B=.37, SE=.18, p<.05), while negative predictors were Palestinian ethnicity (B=-4.56, SE=2.03, p<.05) Iraqi nationality (B=-3.66, SE=1.54, p<.05), father's sleep problems (B=-3.75, SE=1.20, p<.01), speaks with and father when sad (B=-2.26, SE=.62 p<.001), young refugee communicates with his/her mother when glad (B=.-1.86, SE.72, p<.05).and father's education in the home country (B=-.33, SE=.11, p<.01). The most significant positive predictor of large self-ratings relative to parents' ratings concerning externalizing behaviour was "father on regular medication" (OR=37.2, p<.05, large effect size), and the largest negative predictor "father is anxious" (OR=.03, p<.05, large effect size). The most significant positive predictor of large self-ratings relative to parents' ratings concerning internalizing behaviour was "disagreement on whether the young refugee quarrels with his/her father" (OR=4.0, p<.05, medium effect size) and the largest negative predictor "father has sleep-problems" (OR=.1, p<.05, large effect size)
Long-term impact of parenting/ parent-child interactions on adult "children's" mental health			
Ghanzinour et al., (2003)	Yes (Adults, M^{Male}=38.41 M^{Female}=35.71)	NR	Experienced rejection of father or rejection of mother significantly positively correlated with large effect sizes to the different psychopathologies of the adults across the domains assessed by the BDI and SCL-90. For paternal rejection, the effect sizes ranged from r= .53 to .70, for maternal rejection, the effect sizes ranged from r= .46 to .62. Emotional warmth experienced by father or mother significantly negatively correlated with large effect sizes to the different psychopathologies of the adults across the domains assessed by the BDI and SCL-90. For paternal emotional warmth, the effect sizes ranged from r= -.62 to -.45, for maternal emotional warmth, the effect sizes ranged from r= -.62 to -.49. Overprotective father or mother significantly positively correlated with medium effect sizes to the different psychopathologies of the adults across the domains assessed by the BDI and SCL-90. For paternal overprotection, the effect sizes ranged from r= .39 to .50, for maternal overprotection, the effect sizes ranged from r= .36 to .49.

[1]Studies based on same sample, [2]Studies based on same sample, [3]Studies based on same sample, [4]Studies based on same sample

* *Note.* Table A1 provides a more detailed overview of results of the included studies categorised according to the impact of different family factors on various child outcomes. Consequently, studies in Table 2 can be listed under multiple parent/family and child functional processes.

Supplementary Material S1

S1: Overview of search terms

Concept		Keywords
		Variation 1
Population		refuge* OR "asylum seek*" OR "asylum-seek*" OR displace* OR stateless OR migrant* OR immigrant* OR emigrant* OR "ethnic minor*"
	AND	
Population Specification		infant OR child* OR new-born OR newborn OR baby OR toddler OR adolesc* OR teenage OR youth OR young OR minor OR pediatric OR paediatric OR "emerging adult"
	AND	
Population Origin		"middle east*" OR mideast* OR arab OR Syria* OR Iraq* OR Iran* OR Afghani* OR Kurd* OR Jordan* OR Leban*
	AND	
Setting		"High-Income countr*" OR HIC OR "developed countr*" OR "Western World" OR "North America" OR Europe OR UN OR "United States" OR US OR USA OR Canada OR "New Zealand" OR UK OR "United Kingdom" OR Australia OR Austria OR Belgium OR Denmark OR Finland OR France OR Germany OR Ireland OR Italy OR Netherlands OR Norway OR Spain OR Scandinavia OR Sweden OR Switzerland
	AND	
Independent Variable		"attachment*" OR "caregiver burden" OR "childrearing practices" OR "child rearing" OR childrearing OR parenting OR communication OR "family influenc*" OR "family environment" OR "family function*" OR "family relation*" OR "family cohesion" OR "family factor*" OR "family burden" OR "maternal mental health" OR "mother* mental health" OR "paternal mental health" OR "father* mental health" OR "parent* mental health" OR "parent* adjustment" OR "parent* resilience" OR "parent* function*" OR "parent* rearing" OR "parent* stress" OR "parent-child relation" OR "parent child relation" OR "psychology of parents" OR "risk factor" OR "modifying factor" OR "vulnerability factor" OR buffer OR "protective factor" OR "social environment"
	AND	
Dependent Variable		(psych* AND (disor* OR ill* OR health)) OR psychosocial OR psycho-social OR (mental AND (disor* OR ill* OR health)) OR resilien* OR outcome OR develop* OR acculturation OR adaptation OR adaptability OR adjustment OR education OR academic OR social* OR "peer relation" OR recovery OR wellbeing OR well-being OR "well being" OR emotion* OR behavio?r OR trauma* OR depress* OR anxiety OR stress OR post-traumatic OR posttraumatic OR "post traumatic" OR PTSD OR sleep OR distress OR internaliz* OR internalis* OR externaliz* OR externalis* OR somati*

Study 2 (Empirical Study)

Prevalence of mental health distress among Syrian and Iraqi refugees and contextual and culturally relevant indicators affecting their mental health and resettlement experiences in Ireland

Prepared in accordance to submission guidelines of the *Journal of Child and Family Studies* (See Appendix A).

Total Word Count
Main Text (incl. abstract and tables): 7670 words
References: 1742 words
Appendices were attached mainly for examination purpose.

Prevalence of mental health distress among Syrian and Iraqi refugees and contextual and culturally relevant indicators affecting their mental health and resettlement experiences in Ireland

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Declaration of Interest: We declare no competing interest.

Research Highlights

- Syrian and Iraqi refugees in Ireland require access to mental health supports
- Resilience (Systemic Resources) was a protective predictor for mental health
- Caring for family members was a risk factor for mental health
- Number of Children was a protective predictor for mental health
- Programmes that foster resilience and social connection should be implemented

Abstract

Purpose of this study was to explore prevalence rates and nature of mental health presentations among Syrian and Iraqi refugees resettled in Ireland. The second aim was to identify resettlement components based on a participatory construct elicitation method with refugees and their support workers. The third aim was to determine how well those components in addition to demographic variables and resilience predict refugees' overall mental health distress in the resettlement environment. This study utilised a mixed-methods cross-sectional design. 14 participatory workshops with refugees and professionals supporting refuges were conducted to identify facilitators and barriers for families' resettlement. Those items were quantified to explore their contribution to mental health distress. Mental health presentations assessed were symptoms of anxiety and depression (HSCL-25), post-traumatic stress disorder (IES-R), somatic complaints (PHQ-15). Additionally, Resilience (Systemic Resources) was measured. Data was collected between February 2018 and January 2019. A total of 64 adults completed the self-report measures. Symptoms of anxiety were found for 44%, symptoms of depression were found for 32%, and symptoms of PTSD for 65%. Mental health symptoms were associated with somatic complaints and self-rated psychological distress. In the model constructed via multiple hierarchical regression, uniquely significant contributions to variances in Mental Health Distress were made by Resilience (Systemic Resources), 'Major Life Challenges: Caring for Family Members and Personal Issues', and Number of Children. The findings highlight that Syrian and Iraqi refugees are a vulnerable population in Ireland requiring assessment, access to supports and resources. Besides the access to specialised psychological treatments for mental health disorder, the implementation of programmes fostering resilience and social connection and

support is of importance. This needs to be considered for policy and service development to reduce mental health distress and strengthen resilience in refugee families.

Keywords: Refugee, Mental Health, Anxiety, Depression, PTSD, Resilience, Ireland, Middle East

Introduction

Higher rates of mental health distress in refugees in comparison to the normal population or non-forced immigrants have been established over the short-term and the long-term (Bogic, Njoku, & Priebe, 2015; Porter & Haslam, 2005). As a result of the Syrian war, over 12 million Syrians have been forcibly displaced since 2011, of whom 5.6 million are living outside Syria as refugees (UNHCR, 2019). Ireland has committed to resettling 4000 UNHCR registered refugees from Lebanon, most of whom are Syrian, as part of the Irish Refugee Protection Programme (IRPP). Syrian war refugees have experienced multiple and prolonged exposure to war crimes with implications for mental health (Hassan, Ventevogel, Jefee-Bahloul, Barkil-Oteo, & Kirmayer, 2016). Torture has been experienced by many Syrians and those affected might present as an especially vulnerable group for mental health difficulties (Hassan et al., 2016).

Anxiety, depression and post-traumatic stress disorder (PTSD) are presentations commonly experienced by refugees from various backgrounds, including the Middle East (e.g. Arsenijevic et al., 2017; LeMaster et al., 2017; Tinghög et al., 2017), with these often co-occurring (Fazel, Wheeler, & Danesh, 2005). Large ranges in the prevalence rates of PTSD, depression and/or anxiety disorders in war-affected refugees have been reported across studies (Fazel et al., 2005; Ghumman, McCord, & Chang, 2016; Tinghög et al., 2017) due in part to differences in sample characteristics, methodologies and assessment tools, which makes it difficult to generalise about the presence of mental health disorders in a specific refugee population. However a systematic review of 29 studies on the mental health of war-affected refugees resettled for 5 years or more found prevalence rates for mental disorders were typically in the range of 20% and above, with upper

ranges being 80% (depression), 86% (PTSD) and 88% (anxiety) (Bogic et al., 2015). Tinghög et al., (2017) assessed prevalence rates for common mental health presentations of Syrian refugees in Sweden having sought asylum between 2011 and 2013. They utilised random sampling based on nationwide registry data with assessment measures distributed via post. Depression was identified as the most common disorder (40%), followed by anxiety, (32%) and PTSD (30%). High rates of comorbidities, an average of 4.2 potentially traumatic events (PTE's) experienced by refugees, and 30.6% of the sample having experienced torture were reported. Georgiadou, Zbidat, Schmitt, & Erim (2018) studied Syrian refugees who arrived in Germany after 2014. They reported prevalence rates of 11% for PTSD, 15% for moderate depression, and 14% for moderate anxiety. A total of 6% of their sample experienced torture and the average number of PTE's was 2.3, which they highlighted was lower than in Tinghög et al.'s (2017) study, and they raised this as a contributing factor to the lower mental health disorder prevalence rates. Javanbakht et al., (2018) assessed Syrian refugees at their arrival in the United States as part of the mandatory health assessment and reported PTSD being the most common presentation (48%), followed by prevalence rates of 40% for anxiety and 32% for depression. A study with Middle Eastern torture survivors in Finland found PTSD prevalence rates of 84% being reported as well as very high rates of depression (84%) and anxiety (77%) (Schubert & Punamäki, 2011), indicating torture survivors may have elevated mental health needs compared to other war-affected refugees.

The nature and frequency of premigration trauma or experience of violence as predictors for refugee mental health difficulties have been consistently identified in the literature (Alpak et al., 2015; Ghumman et al., 2016; LeMaster et al., 2017; Steel et al., 2009). In this context, a dose effect has been noted with the risk for

mental health difficulties increasing with the number of traumatic events experienced (Steel et al., 2009). Additional pre-settlement elements suggested to contribute to differences in mental health prevalence rates are culture, length and nature of the migration journey, and status of the conflict in the country of origin (Bogic et al., 2015; Georgiadou et al., 2018; Porter & Haslam, 2005; Tinghög et al., 2017).

Varying prevalence rates in mental health difficulties of war-affected refugees have also been attributed to the resettlement context (Bogic et al., 2015; Georgiadou et al., 2018; Tinghög et al., 2017) with resettlement factors having been found to be more salient in predicting mental health outcomes than pre-settlement factors (Li, Liddell, & Nickerson, 2016; Porter & Haslam, 2005; Tinghög et al., 2017). Resettlement risk factors identified in the literature include unemployment, gender, education, and experience of grief due to loss of social identity and loss of family and community networks/supports, fear for family members left behind and uncertainty about reunification, chronic diseases, poor socioeconomic status, and language difficulties (Ghumman et al., 2016; Kirmayer et al., 2011; LeMaster et al., 2017; Li et al., 2016; Misra, Connolly, & Majeed, 2006; Nickerson, Bryant, Steel, Silove, & Brooks, 2010; Russo, Lewis, Joyce, Crockett, & Luchters, 2015). Proficiency in the host language has been noted as a central resource for refugees' ability to integrate, adjust, and acculturate (Tip, Brown, Morrice, Collyer, & Easterbrook, 2019) and identified as a protective factor for mental health (Lumley, Katsikitis, & Statham, 2018). Additional identified protective factors promoting the psychosocial adjustment of refugees are social support, partner support, religion, good relationship with child, friendships, education, and utilisation of childcare (LeMaster et al., 2017, Russo., 2015). The role of social support for refugees' mental

health has been identified as favouring acculturation and potentially mediating between trauma exposure and PTSD symptoms (LeMaster et al., 2017).

The majority of research on Syrian refugees in high income resettlement countries has tended to focus on mental health difficulties, with limited attention to resilience processes. Resilience has been noted as under-researched to date (Hassan et al.,2016; Quosh, Eloul, & Ajlani, 2013). Studies that have included measures of resilience have tended to conceptualise resilience as individual level factors such as personal competence (Ameen & Cinkara, 2018) or cognitive and behavioural abilities to cope with adversity (LeMaster et al., 2017). An alternative model views resilience as fostered by systems around an individual to support coping strategies (Southwick et al., 2016). In working with culturally diverse at-risk populations, Ungar (2008) has argued there is a need for a culturally and contextually embedded understanding of resilience. His team devised a culturally informed adult resilience scale based on a conceptualisation of resilience as individuals 'navigating' their way to health-sustaining relational, communal and cultural resources. In addition to this however, the research evidence suggests it is important to consider local context and culture specific factors that may facilitate or act as barriers to positive mental health. One qualitative study in Lebanon highlighted the role of religion and 'God as comfort' in supporting Syrian refugee resilience (Hasan, Mitschke, & Ravi, 2018). In addition, Ameen and Cinkara (2018) identified English language proficiency as building resilience in adolescent Iraqi refugees. The collectivist nature of Middle Eastern culture which emphasises the role of family and community for support and coping (Kirmayer et al., 2011) and an emotional dependence between family members (Cheung Chung et al., 2018) needs to be considered in understanding Syrian refugee mental health. It is important for psychological practice therefore to

developing a *situated understanding* of how Syrian refugees are navigating their way to health, based on their use of locally available resources in their resettlement environment, facilitators and barriers to health navigation and if resources are provided in ways that are culturally meaningful.

A further factor that may be important to consider when seeking to understand the mental health needs of Syrian and Iraqi refugees is cultural differences in the expression of mental health distress. Evidence suggests that Middle Eastern cultures experience and express mental health in the form of somatic symptoms (Hassan et al., 2015; Rohlof, Knipscheer, & Kleber, 2014) yet many studies assessing Syrian and Iraqi mental health have failed to take somatic symptoms into account.

This paper aims to address these concerns and gaps in research with Syrian and Iraqi refugees registered in the IRPP via the following approach. Participatory workshops with refugees and key support staff aimed to identify indicators that have assisted refugees in their resettlement (facilitative factors) and those that have impeded their resettlement (barriers) through adaptation of a construct elicitation methodology (Stark, Ager, Wessells & Boothby, 2009). A questionnaire then explored prevalence rates and somatic expression of mental health distress, facilitators and barriers to resettlement and sociodemographic variables. The research questions were: (1) What are the prevalence rates, comorbidities and expression of anxiety, depression, and PTSD in Syrian and Iraqi refugees resettled in the south of Ireland; (2) What elements of individual's resettlement experiences are facilitators and barriers to refugees' resettlement (3) How well do resettlement aspects predict mental health distress, and which aspects are the best predictors?

Method

Sample Characteristics and Background

The study sample were 60 Syrian and 4 Iraqi refugees resettled in the south of Ireland between 2015 and 2017 under the IRPP. These refugees were interviewed and selected in Lebanon and for their initial reception in Ireland, spent time in an Emergency Reception and Orientation Centre (EROC). Refugees were supported by the Irish government Health Services Executive (HSE) Social Inclusion Department in their local community for the initial 2 years post arrival. They were provided with medical cards, access to social welfare, housing, schooling for their children, and mandatory English classes. All participants were in Ireland for approximately 2 years.

Participants were 64 adults (30 male, 34 female) aged 18 to 74 years of age from 37 families. In total, 59 of the 64 participants were a parent and five participants were adult children. There was an average of 3.15 children per family (SD 1.89), and average age 8.9 years (SD 4.8 years). Syrian and Iraqi refugees 18 years or older registered in the IRPP programme in the Cork and Kerry region were eligible to participate (N=93) and were invited to do so by community support workers through information sessions. In total, 68.8% of the eligible sample agreed to participate. Socio-demographic characteristics of participants are shown in Table 1.

Additionally, a sample of 39 professionals were recruited via snowball and convenient sampling. Those professionals worked across different HSE, voluntary and private sectors and were involved in supporting refugee resettlement. No demographic information was collected from these professionals.

Table 1.

Socio-demographic Refugee Participant Characteristics

Characteristics (Valid number)	Frequency (n)	Percentage (%)
Gender (n=64)		
Male	30	46.9
Female	34	53.1
Parenting (n=60)		
Both Parents/Partners in Ireland	47	78.33
Widowed/divorced	13	21.67
Prior Education (unless adult children currently in educational setting, see Other) **(n=59)**		
No education	5	8.47
Primary School	23	38.98
Secondary School	17	28.81
Other (Adult children in educational setting)	3	5.08
Any College Degree	11	18.64
Employment Status (n=60)		
Employed	3	5
Unemployed/Homemaker	57	95
English Proficiency (Self-rated) (n=61)		
No Proficiency	17	27.87
Some Proficiency	33	54.10
Good Proficiency	11	18.03
	Mean	Standard Deviation
Age (n=64)	38.60	11.62
Migration Journey (n=64)		
Length of Migration Journey from Country of origin to Ireland (in months)	34.87	14.23
Time in Ireland (in months)	30	7

Procedure

This retrospective cross-sectional mixed method study was conducted between February 2018 and January 2019 in counties Cork and Kerry. First contact was initiated by HSE community workers through information sessions. Those interested were contacted by the researcher (first author) and informed about the

study either during group meetings or visits to refugees' houses. Qualitative and quantitative methods were used to answer the defined research questions in a stepped approach as displayed in Figure 1.

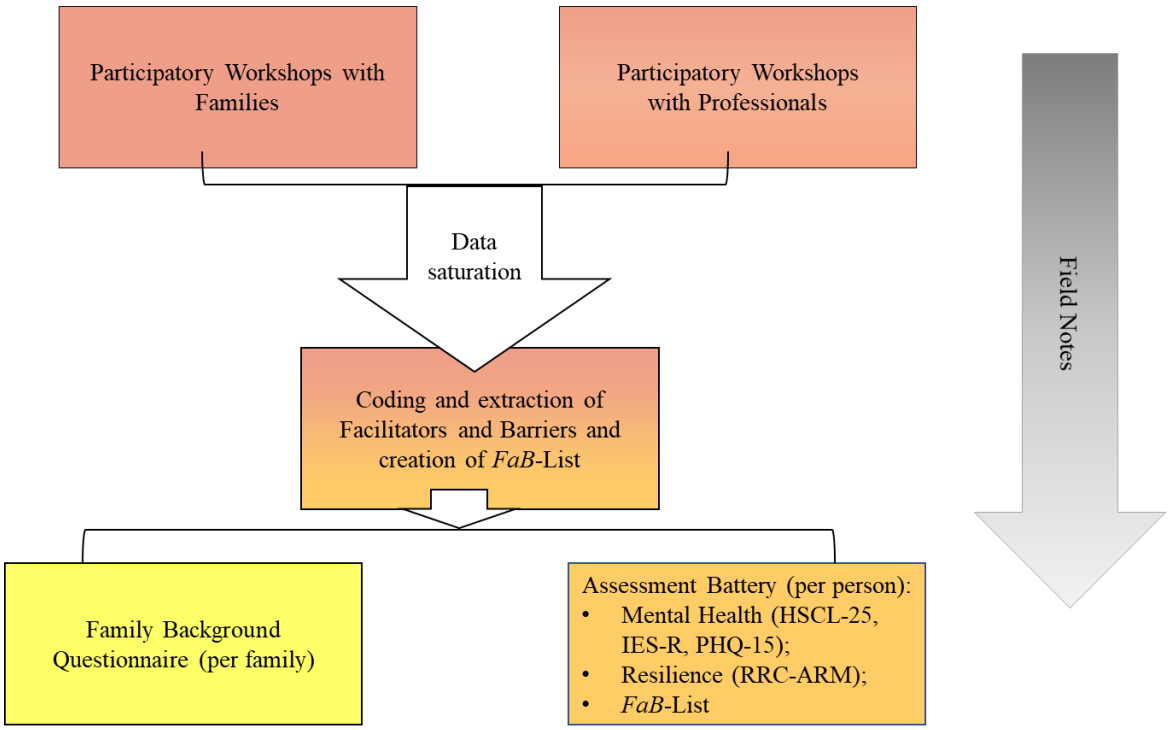


Figure 1: Research Process

A total of 14 participatory workshops were carried out to identify local context and cultural elements facilitating or impeding on refugees' resettlement and mental health. Eight workshops were facilitated with adult refugees, (five mixed gender, one with young males (aged 16-24 years), one with widows, one with females only). In addition, six workshops were carried out with professionals across Cork and Kerry as well as experts from the United Kingdom. Participatory workshops were facilitated by the authors through an interpreter. Data saturation regarding facilitators and barriers for resettlement and mental health was obtained

after nine workshops. Extracted facilitators and barriers were then listed and reviewed with the extended research team to create a finalised list of 58 facilitator and barrier indicators (*FaB*-List) which formed part of the final *FaB* instrument (for further information, see Weihrauch et al., forthcoming). Additional qualitative information was collected in form of field notes.

The assessment battery and family background questionnaire were completed by adults either in the context of organised local meetings or, if preferred, at individual meetings with refugees, with many choosing their house as the preferred option. A standard double-blind translation and back translation procedure, as described by Weiss (2009) and Selmo, Koch, Brand, Wagner, & Knaevelsrud (2019), was used unless adapted Arabic versions of mental health assessments were already available. Available measures were assessed and modified where necessary by a cultural informant. All measures were available in Arabic and English.

Ethical approval was granted by the Clinical Psychology Ethics Committee of the University (Appendix B). The researchers informed members about the nature of the research and written consent was obtained prior to anyone's participation (Appendix C & D). A risk protocol was developed and followed to manage potential immediate risk if disclosed in the context of answers provided by refugees on the assessment battery (Appendix E). A clinical psychologist was available if needed at every meeting with participants.

Materials

All assessment measures were available in Arabic and English. The assessment battery was completed by each participant in the form of a self-report. The Family Background Questionnaire was completed by families via semi-

structured interviews. An interpreter was available for support and to address literacy difficulties.

Individual self-report measures.

Hopkins Symptoms Checklist-25. The Hopkins Symptoms Checklist 25 (HSCL-25; Mollica, Wyshak, de Marneffe, Khuon, & Labelle, 1987) was selected to assess participants rates of experiencing symptoms related to *Anxiety* and *Depression*. The total score provides an indication of *Emotional Distress*. A mean score of 1.75 suggests clinically relevant distress (Mollica et al., 1987). The HSCL-25 was chosen based on its suggested cross-cultural validity and wide use within refugee studies to assess mental health (e.g. Dowling, Enticott, & Russel, 2017; Gerrtisen et al., 2006). The Arabic version as translated and tested by Kleijn, Hovens, and Rodenburg (2001) was utilised following its assessment for accessibility for the sample by a cultural informant.

Impact of Event Scale-Revised. The Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1996) was selected to assess *Symptoms of PTSD*. The IES-R consists of 22 items, with subscales assessing symptoms of *Intrusion, Avoidance,* and *Hyperarousal*. A total score of 34 or above has been suggested to be indicative of PTSD requiring further clinical investigation in war affected populations (Morina, Ehring, & Priebe, 2013). This assessment was chosen due to its indicated cross-cultural validity with asylum seekers (Renner, Salem, & Ottomeyer, 2006). The measure, while sometimes used as same, was not used as a diagnostic tool but rather a screening tool for symptoms of PTSD. The IES-R was translated into Arabic by a native speaker and back translated by an official translation service. Participants were given the option to disclose the stressful life event.

Patient Health Questionnaire. The Patient Health Questionnaire-15 somatic symptoms (PHQ-15, Kroenke, Spitzer, & Williams, 2002) is a 15-item measure providing a total score of *Somatic Complaints*. It was used to explore if mental health outcomes might be associated with somatic complaints. It has been suggested to be applicable cross-culturally due to its cultural sensitivity (AlHadi et al., 2017). It has been translated and Arabic versions have indicated good internal reliability (AlHadi et al., 2017), sensitivity, and specificity (Becker, Zaid, & Faris, 2002). The Arabic PHQ-15 as translated and tested by AlHadi and colleagues (2017) with a Saudi Arabian sample was used in the current study. Changes were made where necessary to adapt it to the Syrian and Iraqi cultural and linguistic understanding by a cultural informant. The adapted version was back translated by an official translation service.

***Adult Resilience Scale*.** The Resilience Research Centre Adult Resilience Measure (RRC-ARM, Ungar & Liebenberg, 2011) was used to assess levels of *Resilience (Systemic Resources)* to explore its impact on difference in *Mental Health Distress*. The RRC-ARM has been suggested to be of strong internal consistency, content, criterion, and construct validity (Liebenberg & Moore, 2018). Scores are provided for the *Resilience Total Score* and subscales: (1) *Individual Capabilities/Resources*, referring to individuals personal skills, peer support, and social skills; (2) *Personal Relationships with Key Individuals* referring to individuals physical and psychological caregiving/ relations needs being met in the family context; and (3) *Contextual Factors facilitating a Sense of Belonging*, referring to spiritual, educational, and cultural resources available to an individual (Ungar, 2016). In the absence of an Arabic version, the 28-item version scored on a five-point scale

was translated by a native speaker and back translated by an official translation service.

Facilitators and Barriers List (FaB-List). A list of facilitator and barrier indicators was developed based on 14 participatory workshops with adult refugees and professionals (see Weihrauch et al., forthcoming). A list of 58 items was created following data saturation and discussion of items with the extended research team. The *FaB*-List consisted of indicators based on self-reported experiences (refugees) and observations (support professionals) of local context and cultural factors impeding or facilitating resettlement and mental health (Appendix F). Each item could be endorsed by refugee participants on a three-point scale (*No, Somewhat, Yes*). Additionally, participants had the option to rate items as '*Not applicable*'. For the analysis reported here, indicators related to children were removed and 38 facilitator/barrier indicators were included in this analysis.

Family self-report measure

Family Background Questionnaire. A background questionnaire was devised by the authors in consultation with stakeholders to gain insights into additional factors that help understanding differences in mental health difficulties. Sociodemographic information that was collected comprised of information about person's age, gender, previous and current education and occupation, number of children, migration journey, level of English proficiency, integration, and resettlement experience (Appendix G). One questionnaire per family was completed by the family in a structured interview format with a keyworker or the author via an interpreter.

Data Analysis

IBM Statistical Package for Social Sciences (SPSS) Version 24 was used to analyse the data. Missing data was addressed through various imputation strategies for those with less than 20% of missing data (Appendix H).

The first part of the analysis focused on determining prevalence rates for symptoms of anxiety, depression, PTSD and the nature of presentations in the context of comorbidities and association with somatic symptoms. Therefore, descriptive statistics were used to explore the data. To aid the understanding of the nature and expression of those mental health symptoms, additionally, bivariate analyses were conducted to explore the potential relationship between mental health presentations and somatic symptoms. Due to the limited sample size, depending on variables explored and the normality of data, parametric and non-parametric tests were employed.

To answer the second and third research question, meaningful data reduction via principal component analysis (PCA) was conducted. PCA is a robust method of data reduction that is appropriate for use with small samples. To explore the meaning of the resulting components underlying the 38 indicators of the *FaB*-List an orthogonal Varimax rotation was utilised. The orthogonal solution was indicated to minimise any problem of multicollinearity in subsequent regression analyses. The identification of the number of salient components was based on Eigenvalues, Scree Plot and interpretability in consultation with key informants of the Syrian and Iraqi community. Four meaningful components were identified that provided themes of resettlement experiences. These components were used as independent variables in subsequent analysis. To measure general mental health within Syrian and Iraqi refugees in the Irish resettlement context a second higher-order PCA, was carried out

on the mental health symptoms. Primary components were rotated obliquely and single higher order component of generic *Mental Health Distress* was identified.

In addition to the components from the first PCA, it was of interest which other variables, such as demographic variables and resilience contribute to understanding Mental Health Distress in the resettlement context. Therefore, bivariate analyses were conducted to explore the potential relationship between those variables and Mental Distress.

Multiple regression models were used to determine how much of the variance in *Mental Health Distress* can be explained by identified demographic variables, resilience, and components derived from facilitators and barriers (*FaB*) of families' resettlement experience.

Results

Scale Exploration, Rates of Mental Health Presentations, and Comorbidities

Descriptive statistics and analysis of the reliability were conducted for the mental health outcome measures and Resilience (Systemic Resources) measure, and results suggest high Cronbach's Alphas across outcome measures (Table 2). Strong significant correlations were found between self-reported levels of psychological distress and mental health presentations suggesting that high scores on the various mental health presentations were associated with self-rated psychological distress.

Table 2.

Test Score Summaries of Mental Health Assessment Measures

Measure and Subscales	Mean	Standard Deviation	Cronbach Alpha
HSCL-25	1.83	0.60	0.940
Anxiety	1.74	0.64	0.891
Depression	1.89	0.61	0.896
Patient Health Questionnaire*	9.67	9.67	0.876
PHQ-15**	11.20	6.60	0.865
IES-R	39.31	23.61	0.965
Intrusion	15.04	9.32	0.930
Avoidance	14.26	8.81	0.908
Hyperarousal	10.50	6.71	0.879
RRC-ARM	107.18	19.86	0.939
Individual Capabilities	39.35	8.73	0.862
Personal Relationships	27.98	5.33	0.793
Contextual Factors	39.10	7.51	0.848

*For 14 items, excluding question (d) as only applicable for females
** All 15 items, but only for females

To answer the first research question, about the prevalence rates of mental health presentations and nature of comorbidities, descriptive statistics were used. Prevalence rates based on reported clinical cut-offs for Syrian and Iraqi refugees resettled in the south of Ireland are reported in Table 3. Comorbidities between mental health presentations for this sample are displayed in Table 4.

Table 3.

Frequencies of Mental Health Presentations

Probably Mental Health Presentation	n (%) whole sample (n=64) meeting criteria	n (%) males (n=30) meeting criteria	n (%) females (n=34) meeting criteria
Anxiety	28 (43.8)	11 (36.7)	17 (50)
Depression*	20 (31.7)	7 (23.3)	13 (39.4)
Posttraumatic Stress Difficulties*	41 (65.1)	21 (70)	20 (60.6)
Any mental health difficulty*	46 (73.0)	23 (76.7)	23 (69.7)

*1 female participant excluded due to missing data

Table 4.

Comorbidities between Mental Health Presentations

Comorbidities	n (%) whole sample (n=62*)	n (%) males (n=30)	n (%) females (n=32*)
None (neither Anxiety, Depression, or PTSD)	17 (27.4)	7 (23.3)	10 (31.3)
Only Anxiety	4 (6.5)	1 (3.3)	3 (9.4)
Only Depression	0 (0)	0 (0)	0 (0)
Only Anxiety & Depression (no PTSD)	1 (1.6)	1 (3.3)	0 (0)
Only PTSD	15 (24.2)	12 (40)	3 (9.4)
Only Anxiety & PTSD	6 (8.6)	3 (10)	3 (9.4)
Only Depression & PTSD	2 (2.9)	0 (0)	2 (6.3)
All (Anxiety, Depression, PTSD)	17 (27.4)	6 (20)	11 (34.4)

*2 excluded due to incomplete data set

Chi-square analysis suggested no significant association between gender and scoring above or below clinical cut-offs across mental health presentations. In table 4, similar percentages were observable in males and females across comorbidities, apart from 'Only PTSD' presentations. A Chi-Square analysis supported this observation suggesting a significant association between gender and the nature of comorbidities $X^2(3)=8.049$, $p=.047$, $V=.36$, with men being more likely to present with symptoms of PTSD in the absence of symptoms of anxiety or depression than women. Tentative explanation might be made based on the nature of traumatic events disclosed by participants on the IES-R. Eleven men voluntarily disclosed the event still affecting them; 45% reported being kidnapped and placed in a torture prison, 27% witnessed war related events, 18% were seriously injured during the war, and 9% noted the forced fleeing from home. Fifteen women voluntarily disclosed events; they reported death of family members (38%), witnessing war related events (19%), bombing of their home (13%), forced fleeing (13%), family member being imprisoned and tortured (13%), and being imprisoned (6%). While having to be interpreted with caution, men reported more incidents of traumatic acts

being inflicted upon them as supposed to women who reported more incidents of indirect trauma as a result of war.

Expression of Mental Health Presentations

The analysis sought to understand if somatic symptoms were associated with mental health presentations, as suggested in the literature. Table 5 displays associations between mental health presentations and somatic symptoms.

Table 5.

Correlations between Outcome Variables

Variable	Anxiety[1]	Depression[1]	PTSD Symptoms[2]	Physical Symptoms[3]
Depression[1]	.831**			
PTSD Symptoms[2]	.566**	.566**		
Physical/Somatic Symptoms[3]	.769**	.684**	.457**	

**p ≤ .01 level; *p ≤ .05 level
[1]HSCL-25 subscale, [2]IES-R, [3]PHQ-15

Dimension Reduction of *FaB*-List.

The second research question aimed at identifying local facilitators and barriers to families' resettlement and mental health as discussed by refugees and support workers which might contribute to difference in refugees' mental health. Via a PCA extraction, a four-component model was determined based on the inflexion in the scree plot and conceptual interpretation of the components (Table 6) and weighted scores were obtained. Table 7 displays the component details which includes Armor's Theta is presented for each component. This is a measure of the reliability of each rotated component score and it suggested that while the fourth component is weaker, all were in the acceptable range (Appendix I Orthogonal Varimax PCA).

Table 6.

PCA of Facilitators and Barriers discussed by Families and Professionals

Facilitator and Barrier Items	'Close Meaningful Social Support and Connection'	'Building a New Life while having Family Abroad'	'Major Life Challenges: Caring for Family Members and Personal Issues'	'Disruption in Connection/ Feeling Stuck'
Having a supportive/reliable partner	**.706**	.072	.166	.230
Having made friends with Irish people	**.704**	-.184	-.010	.215
Managing daily challenges	**.647**	-.134	.153	.222
Not feeling hopeful about future relationship if single	**-.624**	-.006	-.104	.329
Supporting other Syrian/Iraqi families	**.573**	.100	.320	-.031
Having access to transport	**.565**	.064	-.106	.043
Having a long-term illness	**-.561**	.201	-.056	.155
Being widowed and not recognised	**-.551**	.019	-.137	.384
Having created social supports	**.523**	-.070	-.104	-.212
Having had English skills before	**.429**	-.211	-.032	.347
Feeling supported or accepted by the Syrian/Iraqi community	**.414**	.013	-.109	.122
Living close to other Syrian/ Iraqi families	**.308**	.184	.010	-.041
Feeling hopeful about building life in Ireland	.011	**.680**	-.067	.040
Having good supportive relationship with neighbour	.190	**.672**	-.150	.084
Feeling able to adapt to life in Ireland	.010	**.671**	-.059	-.196
Feeling comfortable to ask for support	-.127	**.616**	.165	.041
Talking to neighbours	.404	**.511**	.026	.129
Having family members in Syria/Jordan/etc.	-.151	**.475**	-.005	-.100
Having lost family member	-.094	**.472**	.096	.096
Having made friends with other Syrian/Iraqi families	.287	**-.406**	-.283	.362
Having appropriate access to services for health-related matters for self	-.134	**.378**	-.067	.312
Feeling responsible to care for family	.144	**.268**	-.042	.141
Caring for Family member with emotional struggles	-.218	.007	**.745**	-.016
Supporting family member under family reunification	.159	.023	**.685**	-.116
Caring for Family Member with physical disability	.133	.030	**.678**	.140
Caring for Family Member with ID	-.061	.370	**.658**	-.152
Having been able to bring family members under family reunification	.072	-.244	**.554**	-.191
Caring for Family Member with long-term illness	.244	.217	**.474**	.393
Having an ID	-.001	.325	**.458**	-.190
Having a physical disability	-.183	.112	**.291**	.204
Housing meeting needs	.202	.208	**-.289**	-.156
Having a local person or service that can provide support	.070	-.138	**.276**	-.033
Having found work and being able to use previous skills	.093	-.157	**.258**	.151
Struggling financially	.022	-.074	-.013	**.648**
Having come to Ireland alone	-.205	-.015	-.007	**.580**
Feeling supported or being able to rely on immediate family	.279	.127	.163	**.433**
Waiting for family reunification	.083	.100	-.237	**.403**
Having family reunification refused	.016	.139	.136	**.163**

Table 7.

Principal Component Analysis Results

Component	Eigenvalue	Cumulative % of variance explained	Armor's Theta (Rotated)
'Close Meaningful Social Support and Connection'	4.68	12.32	0.80
'Building a New Life while having Family Abroad'	3.86	22.48	0.74
'Major Life Challenges: Caring for Family Members and Personal Issues'	3.05	30.51	0.73
'Disruption in Connection/Feeling Stuck	2.37	36.74	0.61

'Close Meaningful Social Support and Connection' accounted for the largest variance, 12.32%, followed by 'Building a New Life while having Family Abroad' (10.16%), 'Major Life Challenges: Caring for Family Members and Personal Issues' (8.03%) and 'Disruption in Connection/Feeling stuck' (6.23%). The four components together explained 36.74% of the variance.

Dimension Reduction of Mental Health Presentation Outcomes

The third research question explored how well elements within the resettlement context predict refugees' overall *Mental Health Distress* and which elements the best predictors are. A PCA reduced the dimensions of the mental health presentations (Anxiety, Depression, Symptoms of PTSD, Somatic Complaints) and extracted one component with the Eigenvalue of 2.96, Theta Coefficient of 0.88, and accounting for 73.90% of the total variance was extracted and named *Mental Health Distress*. Table 8 displays the loading of variables (See Appendix J for more detailed PCA output).

Table 8.

PCA to summarise mental health presentations to one component related to mental health

	Loading
Mental Health Distress	
Anxiety Symptoms	.932
PTSD Symptoms	.906
Physical Health Symptoms (Somatisation)	.854
Depression Symptoms	.732

Note. Numbers reflected unrotated loadings of 4 outcome variables on the component.

Correlations were conducted between *Mental Health Distress* and variables suggested in the literature to impact on refugee mental health such as demographic variables and Resilience (Systemic Resources) to establish which need to be accounted for in the regression model for *Mental Health Distress*. Independent sample t-tests across demographic variables displayed in Table 1 only identified English Proficiency (binary: no-some) as being of importance. A significant difference in reported levels of *Mental Health Distress* were indicated between those with no English proficiency (M=.492, SD=.864) and with those with at least some self-rated English proficiency (M=-.096, SD=1.006), t(55)=2.012, p=.049, d_{Cohen}=-0.605. Pearson Correlations identified significant correlations for Number of Children (r=-.403, n=58, p=.002) and Resilience (Systemic Resources) (r=-.415, n=55, p=.002) with the *Mental Health Distress*.

Multiple Regression Models for *Mental Health Distress*

To establish how well variables and *FaB* components predict *Mental Health Distress* across Syrian and Iraqi refugees resettled in the south of Ireland, multiple regressions were utilised. An explorative multiple linear regression with the four components based on named facilitators and barriers to resettlement explained 18.3% of the overall variance of *Mental Health Distress* (F(4, 52)=4.128, p=.006. ‘Close

Meaningful Social Support and Connection' and 'Major Life Challenges: Caring for Family Members and Personal Issues' were significant contributors to the model. 'Close Meaningful Social Support and Connection' was the strongest component making a unique negative contribution of 13.1% and 'Major Life Challenges: Caring for Family Members and Personal Issues' as the second strongest one making a positive unique contribution of 6.5% to the model (Appendix K).

The final step of the analysis involved conducting a hierarchical regression analysis to understand how number of children, English proficiency (binary), Resilience (Systemic Resources), and the four components of resettlement experiences explain *Mental Health Distress* of Syrian and Iraqi refugees resettled in the south of Ireland. Number of children as a demographic variable and English proficiency and Resilience (Systemic Resources) were entered as independent variables in block 1, as they emerged as significantly correlated with *Mental Health Distress* and therefore were entered in the analysis. The four defined components of the *FaB*-List were entered in block 2. Model 1 of the hierarchical regression explained 26.4% of the variance in *Mental Health Distress*, $R^2 = .305$, adjusted $R^2 = .264$, $F(3, 51) = 7.470$, $p<.001$. After controlling for those variables, the four *FaB* components described an additional 13.6%, R^2 Change =.136, $F(4, 47)=2.868$, $p=.033$. The final model explained 35.8% of the variance in *Mental Health Distress*, $R^2 = .442$, adjusted $R^2 = .358$, $F(7, 47) = 5.309$, $p<.001$. In the final model, the contribution of three components were significant, with Resilience (Systemic Resources) making the largest unique contribution to the model (10.4%), followed by 'Major Life Challenges: Caring for Family Members and Personal Issues' (8.4%), and Number of Children (8.1%). English Proficiency (binary) was almost significant and contributed 4.4% to the model of *Mental Health Distress*. 'Close Meaningful

Social Support and Connection' no longer made a significant contribution to the model. Regressions coefficients, significant values for each component in the mode, and part correlations are reported in Table 9.

Table 9.

Summary of hierarchical regression for Mental Health Distress in Adults

	B	SE	β	p	sr^2
Model 1					
Constant	2.534	.651		.000	
English Proficiency	-.370	.275	-.161	.184	.025
Resilience (Systemic Resources)	-.016	.006	-.317	.012	.093
Number of Children	-.172	.063	-.326	.008	.102
Model 2					
Constant	2.988	.772		.000	
English Proficiency	-.619	.322	-.270	.060	.044
Resilience (Systemic Resources)	-.019	.006	-.368	.005	.104
Number of Children	-.169	.065	-.321	.012	.081
'Close Meaningful Social Support and Connection'	.085	.159	.084	.596	.003
'Building a New Life while having Family Abroad'	.193	.114	.192	.096	.034
'Major Life Challenges: Caring for Family Members and Personal Issues'	.308	.116	.306	.011	.084
'Disruption in Connection/Feeling Stuck'	.126	.112	.125	.265	.015

Discussion

This was the first study with Syrian and Iraqi refugees in an Irish context. An aim of the study was to determine prevalence rates of symptoms of anxiety, depression, and PTSD of adult Syrian and Iraqi refugees resettled in the south of Ireland. In total, 44% of people scored above the clinical cut-off for symptoms of anxiety, 32% for symptoms of depression, and 65% for symptoms of PTSD. Rates of PTSD symptomatology (65%) in this study were higher than recent studies with Syrian refugees resettled in high-income countries. In Sweden, Tinghög et al. (2017)

reported 31% of refugees met the criteria for PTSD while in Germany, Georgiadou, Morawa, & Erim, (2017) and Georgiadou et al., (2018) reporting PTSD prevalence rates of 36% and 11% respectively. In all three studies, most Syrian refugees had resettled years prior to the current sample and therefore may have been exposed to less potentially traumatic events (PTE's). Newly arrived Syrian refugees in the United States were reported to present with rates of PTSD of 48% (Javanbakht et al., 2018) however their recent arrival may have limited the impact of resettlement factors. Our data indicated that of the twenty six participants who disclosed an event still affecting them as part of the completion of the IES-R, all events were PTE's indicating a high level of exposure to war stressors, although prevalence rates were below rates of PTSD for Middle Eastern torture survivors resettled in Finland (Schubert & Punamäki, 2011). Furthermore, unemployment in resettlement was discussed by men and women as a major stressor impacting on their wellbeing and has been associated with poorer refugee mental health outcomes (Hocking, Kennedym & Sundram, 2015) A comparison of rates of anxiety, depression, or PTSD needs to be carried out with caution due to methodological and sample differences, as well as the impact of socioeconomic factors and the resettlement context (Bogic et al., 2015; Tinghög et al., 2017). Methodologically, the IES-R used in this study was not developed as a diagnostic scale (Weiss, 2004) and was used as an assessment of symptoms of PTSD requiring follow-up. Comparisons need to be done cautiously with other studies using diagnostic measures.

In addition to prevalence rates, comorbidities between anxiety, depression, PTSD symptoms, and their expression were of interest. Exploration of comorbidities suggested that Syrian and Iraqi refugees were less likely to experience only mood related difficulties but rather symptoms of PTSD and at least one but more likely

both, symptoms of anxiety and depression. This differed for men, who were more likely to present with only PTSD related symptoms and who disclosed higher rates of direct experience of torture and imprisonment and might be considered as a specific group (Hassan et al., 2015). Significant associations between anxiety, depression, and PTSD symptoms with somatic complaints were found, strengthening the suggested expression and conceptualisation of mental health in somatic symptoms in Middle Eastern cultures (Hassan et al., 2015; Rohlof et al., 2014) and this may be significant for culturally-informed practice.

The second research question aimed to identify and gain insight into individual's resettlement experiences that facilitate or impede on refugees' resettlement. The reduction of dimensions of the facilitators and barriers identified four components of experiences: 'Close Meaningful Social Support and Connection', 'Building a New Life while having Family Abroad', 'Major Life Challenges: Caring for Family Members and Personal Issues', and 'Disruption in Connection/Feeling stuck'. The third question aimed to understand how well these components, and other elements associated with mental health, predict overall *Mental Health Distress* in the resettlement context. The final model highlighted the significant contribution of Resilience and Number of Children as protective factors to refugees *Mental Health Distress*, with resilience being the strongest predictor. The Adult Resilience Scale used to measure resilience captures individual, relational, community and cultural resources. It encompasses protective factors promoting mental health wellbeing identified in the literature such as social supports from the family and society (LeMaster et al., 2017, Russo., 2015) and cultural resources such as spiritual beliefs (Sleijpen, Boeije, Kleber, & Mooren, 2016). Participants discussed that their coping strategies were diminished due to family members being displaced across the world

and discussed the importance of family reunification. Refugees described the stress due to the fear for family members left behind which has been associated with poorer mental health (Nickerson., 2010) and felt responsibility to support them.

Number of children was another significant component with a higher number of children associated with better mental health. By contrast, Poole, Gauthier, Liao, Raymond, and Barnighausen (2018) noted in a refugee camp in Greece that each additional child increased the risk for depression in women. Nevertheless, the difference in impact may be explained based on the resettlement context. In Ireland, refugees highlighted how children gave adults a role and meaning. They noted in the absence of hope for self, hope was experienced for their children's future. Children also appeared to function as a gateway to access resources and find spaces for social connection. Children had mandatory school attendance which provided a place and role for them in the Irish society. This differs for adults, who didn't have an existing Syrian or Iraqi community to connect with and belong to. Professionals observed that child-centred spaces such as creches and education settings also provided access to social connections and resources for parents.

One significant risk factor identified was 'Major Life Challenges: Caring for Family Members and Personal Issues'. This component was heavily influenced by items relating to individuals supporting family members with caring or support needs. While this presents a potential stressor for any family, it is likely of more weight for the Syrian and Iraqi families due to separation from immediate and extended family left behind in Lebanon and Syria, resulting in diminished family and community support and unawareness of services available in Ireland.

Strengths and Limitations

The sample of this study is limited but considering the target population, it is suggested that the sample is a good representation of the population (68.8%). The size of the sample used in this study is quite small. Since the regression model is designed to estimate population parameters from limited samples the representativeness of the sample is vital. Therefore, it is important to note that target population is also very small. It is reasonable to argue that the current sample is highly representative, comprising 68.8% of the known population. The study utilised standardised assessment measures as well as items elicited as facilitating or impeding resettlement by refugees themselves. This provided unique insights into their experience and how these might mediate and or impact on refugees' mental health and resilience. A limitation is the cross-sectional research design, as it does not allow for making clear inferences about the causal relationships between components and *Mental Health Distress*. Nevertheless, the contextual information in addition to the existing literature provides some insights into same. Lacking in the model are also the number and nature of PTEs which were not formally assessed.

Interpretation and generalization of results needs to be done cautiously and in consideration of discussed strengths and limitations. Further the repeated impact of the potentially unique characteristics of this sample and characteristics of the Irish environment should be considered. Nevertheless, results provide indications of potential prevalence rates and assessment measures used showed good internal reliability as well as was associated with self-rated levels of psychological distress.

Implications for Policy, Programming, and Research

Findings about prevalence rates, comorbidities, and the expression of anxiety, depression, and PTSD within Syrian and Iraqi refugees resettled in Ireland have implications for policy and service development. The high prevalence rates highlight the necessity for not only mandatory physical but also mental health assessments. Timely access to mental health services for refugees in resettlement has been noted due to the findings that there is a more than threefold increased risk for the development of PTSD and a more than fourfold risk for depression when access was delayed (Song, Kaplan, Tol, Subica, & Jong, 2015). Further, it might prevent adults from adjusting to and building a life in Ireland, further impeding on individual's mental health. Due to the stigma attached to mental health in Middle Eastern cultures (Hassan., 2016), professionals need to proactively reach out, adapting a culturally appropriate approach and language to interrupt the cycle of avoidance and isolation often accompanying PTSD and other mental health difficulties (American Psychiatric Association, 2013) There is a need for training of mental health professionals but also physical health practitioners. The latter is due to the association between somatic symptoms and mental health, and refugees potentially presenting to general practitioners rather than mental health services for difficulties routed in mental health difficulties.

'Caring for family members and personal issues' was a strong predictor for *Mental Health Distress*. Therefore, individual's needs must be assessed within the context of the family roles and responsibilities. Components in the model of *Mental Health Distress* also indicated the importance of resource provision. Refugees discussed the importance of access to appropriate English classes that consider the various levels of English, education, and literacy. They discussed the role of English

language proficiency in relation to pathways to employment, and to developing a sense of belonging and social connection within the new society While access to trauma focused interventions is of importance, as discussed by Bäärnhielm (2016) programmes and interventions strengthening individual's and families' resilience in culturally responsive ways need to be implemented.

This study considered prevalence rates of common mental health disorders and resettlement factors contributing to variances in *Mental Health Distress*. While based within the Irish context and some findings potentially being unique to the Irish context, it might translate to other high-income resettlement countries. Future research within Ireland and other high-income countries might build on this study to replicate and validate the results and make further recommendations regarding policy and practice. Resilience was noted as an important component for mental health but the evidence base and understanding of same within Syrian and Iraqi refugees is limited and requires further investigation (Hassan., 2016; Quosh., 2013). This study only focused on components within the resettlement context, therefore, future studies might consider identified components in addition to the exploration and impact of pre-settlement factors. Further, future studies and efforts need to be made to develop, implement, and assess programmes.

Conclusion

This study highlights the high rates of mental health distress in Syrian and Iraqi refugees resettled in the South of Ireland. Mental health symptoms were associated with somatic complaints. Differences in *Mental Health Distress* were determined by Resilience (Systemic Resources), 'Major Life Challenges: Caring for Family Members and Personal Issues', and Number of Children. These results

emphasise the need for screening for mental health distress and provision and access to specialised psychological treatments, as well as programmes fostering resilience and social connection. Future research is required to understand how these findings translate to the experience made by other Middle Eastern refugees in high-income countries, to further understand resilience, and to understand the impact of identified resettlement components in addition to pre-settlement variables.

Acknowledgements

We are very grateful for all the Syrian and Iraqi people that sacrificed their time to share with us their experiences. We acknowledge the contribution of extended project team especially Caroline Doyle, Tina Diggins, Denis Justice, Karim Abdullah, Zaid Kassoob, Robyn Mulligan, Chris McCusker, and Sam Lynch. This project was funded by Health Service Executive and we thank Rebecca Loughry, and her team. Lastly, we thank Sean Hammond, Mike Murphy, Kathleen O'Sullivan for statistical support.

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Appendix B
Letter from Ethics

ucc
Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

Coláiste na nEalaíon, an Léinn Cheiltigh agus na nEolaíochtaí Sóisialta
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04/12/2017

Dear Mareike

Thank you for presenting your work to the D.Clin. Research Ethics committee and I am sorry for the rather tardy response.

The committee is happy to approve your research study but we would like to ask that you consider the points below and make some minor amendments to your protocol. You do not need to resubmit these changes for approval but we would ask that you do send us an electronic copy of your protocol with any such changes in place.

Good luck with your research.

S Hammond

Sean Hammond

Please consider the following:-

- Consider how you might simplify the information sheet for ease of translation
- Amend risk protocol to ensure that there is provision for a very high risk to be followed up, that GP/Emergency services can be contacted as appropriate.
- Consider having frontline worker play a more active role in ensuring that participant accesses appropriate follow up if required
- The relationship between the frontline worker and the participant will affect their answers – ensure that there are key index/critical questions that can be checked immediately.
- More clarity is required on the sequence of workshops/questionnaire (the committee appreciates that you are working on this and it would be useful to see it in the protocol).

Professor John A Groeger
Head of School of Applied Psychology

Ollscoil na hÉireann, Corcaigh
National University of Ireland, Cork

Appendix C
English Versions



Information Leaflet for Participants

(Please keep for your own records)

Study Title: *"Understanding and exploring the protective factors and needs of Syrian and Iraqi families in Ireland"*

Why are we doing the project and why are we inviting you?

We are inviting you and your family who have come to resettle in Ireland from Syria or Iraq to help us understand what has been helpful and unhelpful since your arrival in Ireland to provide better supports for other families that coming to Ireland in the future. Therefore, we want to find out:

- What has helped you and your family to adapt to life in Ireland and what has not been helpful?
- What, if any, emotional difficulties or distress have you faced?

What are the benefits of participating in the research study?

1. With your help and knowledge, services can be improved to meet the needs of families from Syria or Iraq living in Ireland.
2. You will be providing important insights for professionals from Ireland to gain a better understanding of the nature of difficulties experienced by people from a similar cultural background to you.
3. It will give you an opportunity to provide feedback on your experiences of the supports received so far.

What are we inviting you to do?

There are three things we would like to invite you to be a part to improve supports provided to new families. You can decide what, if any, things you would like to do.

Please support the following pieces of work:	Who will be there and how long will it take?	What will be discussed	What if I need help and support?

1.Group Workshop	Small group of other Syrian or Iraqi people. Separate workshop for men and women. The workshop will not last longer than 2 hours.	We will talk about what you have found helpful and unhelpful for adapting to life in Ireland since you have arrived. We would like to think together about what could be done in the future to help other families when they arrive.	Researcher, support worker/ agency and Interpreter will also be present
2. <u>Questionnaire for adults to fill in</u> 2a) Questionnaires about strength and difficulties 2b) Questionnaire about your background in Iraq and/or Syria (before you came to Ireland)	You fill this in on your own in a room with other adults, interpreter, support worker/agency. You can also fill it in private space. These questionnaires are easy to complete and are in Arabic. You can read the questions and listen to them. An audio-visual recording will be made available. The most time these will take to complete is 30-40 minutes. We would like to invite you and worker to complete a questionnaire together about your background Only answer what you wish to- if you give permission, a support worker can help fill this information in	Any complications, emotional difficulties that you have experienced or are experiencing as well as about your strength. These are questions about your life before you came to Ireland- when you had to leave your country, where you stayed, the difficulties you had, and since in Ireland, what has been helpful or could be helpful in the future.	It is your choice if you would like to complete them on your own or with someone such as worker from support group, researcher etc The support worker will complete it with you.
3.Questionnaire for adults who have children under 18 years of age	The questions should take no longer than <u>7 minutes for each child.</u>	Questions about how your children are getting on at home and at school. If you wish, you can complete these for <u>each of your</u>	If you consent to it, the researchers will also ask your child's teacher to fill out the same questions about your child.

		children.	Please see the paragraph on the consent form, which you can use to explain the research to your child.

Will my participation in the study be confidential?

YES. We will follow data protection guidelines to make sure that your information will be kept private and confidential to protect your identity:

- In the workshops, we will not ask for any information that could identify you, so your feedback will be anonymous. We will not ask for names, locations etc
- Your personal information will be stored in a separate place from the questionnaires. **Only the research team** (Mareike Weihrauch, Robyn Mulligan, and Dr. Jennifer Hayes), have access to the codes and your personal information. Where?
    - The information will be locked in filing cabinets to which only the research team have access. The room in our HSE Department in which the filing cabinets are stored will also be locked.
- We will store your electronic data confidentially for **ten years** (this complies with Irish Data Protection Law) unless you tell us that you would like this information to be destroyed earlier.

Limits of confidentiality: As is the law and practice in Ireland, there are some limits to confidentiality. These limits are:

- If someone tells us that they or someone is in crisis or where there are child protection concerns, (or questionnaires indicate this) then this information will be given to Dr. Jennifer Hayes so that she can act to make sure that the person is safe.
- Because your health is important to us, Dr. Jennifer Hayes might contact you if we are concerned about your health to let you know what supports are available to you and where you can get these supports. She will link in with your General Practitioner to ensure you can get support.

What will happen to the results?

We will put all the information together to get an understanding of the potential difficulties experienced by Syrian and Iraqi people living in Cork and Kerry. The information will summarise everyone's information and there won't be any information that reveals your identity whatsoever. We will write up the results in theses and reports to inform service delivery. The study may be published in a research journal. We will also give everyone who participates information and feedback on the overall results of the research. We can give you personal feedback about your answers to the questionnaires if you wish.

Are there any potential negatives involved?

There are no significant risks and most people who take part in these types of project get a lot out of it. However, if you find any part of this process stressful or upsetting support will be offered to you by the researcher, support worker/agency and the psychologist. Additionally, you can contact your General Practitioner for support if you prefer.

Do I have to take part?

No, it is completely up to you if you want to take part or not. If you want to take part, you can participate in as many or few elements as you like (e.g. workshops, questionnaires, or both). You can also change your mind and you will not be asked why. Once you filled out the questionnaires you have two weeks to change your mind about the information to be included in this project. We understand that people change their minds and this is ok!

Who has reviewed this study?

This study has been approved by the Clinical Psychology Research and Ethics Panel of the University College Cork (UCC). Their job is to make sure that projects are safe and people are protected.

Contact Details

If you have any further questions about the research study, please contact me, Mareike Weihrauch: 0868223345 or 113221458@umail.ucc.ie or alternatively your support worker/agency may contact me with your questions. You can also contact my supervisors Dr. Angela Veale (a.veale@ucc.ie) and Dr. Jennifer Hayes (Jennifer.Hayes@hse.ie).

AGREEMENT TO CONSENT

Research Study: *"Understanding and exploring the protective factors and needs of Syrian and Iraqi families in Ireland"*

- This study and what I will be doing if I participate have been explained to me.
- I was able to ask questions about the study and what is involved.
- I understand that it is my decision to take part and that it is voluntary.
- I understand that **I can change my mind to participate up to two weeks** after filling out the questionnaires.
- I am aware that if I don't want to participate or change my mind about participating, it will not have any impact on the services that I get or on how I am viewed.
- If I decide to withdraw from the study, I understand that the information collected will be stored confidentially for 10 years unless I tell the researchers to destroy the data.
- I am aware that the information that is collected during the study will remain confidential as appropriate.
- I understand that my identity will be protected in the way the data is stored and in the write-up.
- I have received a copy of the information leaflet for myself.
- I understand that if I have any questions about this research, I can discuss this with the researcher (Mareike Weihrauch) or ask someone who supports me to link in with the researcher.
- I understand that the study has been approved by the Clinical Psychology Research and Ethics Panel of UCC. If I have further queries about the research, I can contact Mareike Weihrauch, 0868223345 or 113221458@umail.ucc.ie or her supervisors contact my supervisors Dr. Angela Veale (a.veale@ucc.ie) and Dr. Jennifer Hayes (Jennifer.Hayes@hse.ie), or alternatively my support worker/agency who may contact the research team.

If you have children, you can use the following paragraph to explain the project to your child and ask them if they are happy to have their information included in the project.

This research project helps us to understand our strengths as a family and what challenges we have faced in coming to Ireland from Syria or Iraq. The information will help our families and the services to provide better supports for others. As part of this, we will ask your school and teacher how you are getting on. We will only do this if you are happy to let that happen. This information is private and a report will be written to explain what the researchers learned. Your name, school and teacher will not be mentioned.

Please indicate your consent to the different elements of the study by inserting ticks in the appropriate boxes. If you consent to your participation, we will contact you via the support worker familiar to you.

I have read and understood the study	Yes ☐	No ☐
I agree to participate in the workshop with other adults	Yes ☐	No ☐
I agree to complete the questionnaires about myself	Yes ☐	No ☐
I would like support from a support person to complete the background questionnaire and they can fill in some information with me.	Yes ☐	No ☐
(If you have children): I agree to complete the questionnaires on my child/children and will explain the project to my child/children and only answer questions about them if they agree for me to do so.	Yes ☐	No ☐
(If you have children): I agree that my child's teacher can be contacted and asked to fill out the same questionnaire about my child.	Yes ☐	No ☐
I agree that my data is used anonymously outside of this study	Yes ☐	No ☐
I would like to get feedback about my answers in the questionnaires.	Yes ☐	No ☐

Signature of Study Participant: _____

Investigator Signature: _____

Date: _____

CONTACT DETAILS

Please provide details <u>in case</u> we need to contact you or follow up with you

Your contact number:

_____

<u>General Practitioner information:</u>

Name of your General Practitioner (GP):

_____

Contact Number of your GP: _____

Service and if available name of person supporting you:

_____

Appendix D
Information Leaflet & Consent (Staff)



Information Leaflet for Participants (Frontline Staff)

(Please retain for your own records)

Study Title: *"Exploring and Understanding Protective Factors and Needs of Refugee Families in Ireland"*

Please read the below information about the study we are inviting you to and take as much time as you need to think about whether you would like to participate in this research study. Once you feel that you understand what is being asked of you and have decided to proceed with participation, you will be asked to sign a consent form.

What is the purpose of the study?

Recently, many families from the Middle East, such as Syria and Iraq have resettled in Ireland. The need to better understand which services and supports are necessary to promote wellbeing in people who have immigrated from countries in the Middle East, to Ireland was identified. We hope by providing an understanding of the needs, difficulties, and strengths experienced by those families, community and health services can provide more focused and appropriate supports.

Therefore, the main purposes of this study are to explore:

- What factors have assisted refugees in adapting to life in Ireland and fostered their resilience and what factors have impeded adjustment to life in Ireland?
- What, if any, emotional difficulties or distress families faced after resettling in Cork and Kerry under the resettlement program?

We hope that by gaining an understanding of the above, that it will help us to understand and provide resources that are needed to support those in need.

What are the benefits of participating in the research study?

- You will be providing important insights for other professionals in Ireland to gain a better understanding of the nature of difficulties experienced by this population.
- It will give you an opportunity to provide feedback on your experiences so far.
- You can play an active role in informing the provision and delivery of supports and service development.

What will you be asked to do?

To understand difficulties experienced by refugees and their resources as well as your experiences, we would like to invite you to participate in a workshop. It is anticipated that **the workshop will take no longer than 2 hours.**

If you are a support worker for Syrian or Iraqi families in Cork or Kerry, we would like to invite you to support the families in completing a background questionnaire on the families, based on information available to you. **We will only ask you to do that once the families have consented to this.**

Will my participation in the study be confidential?

Yes, all the information that is collected from you and the families for who you complete the questionnaire will be kept confidential. It will be ensured that no clues about your or the families identity appear on the written-up studies.

Limits to confidentiality: If the researchers think that you may be at risk to yourself or to others, it will be their responsibility to communicate this to the Psychologist supporting this research who will guide and refer you to existing services.

Data storage/ treatment *(in line with data protection guidelines)*:

- The data from the workshops will be collected in an anonymised manner (no names will be attached to any information).
- If you are a support worker and completed questionnaires:
    - The personal information provided by you about people you support is stored in a confidential manner in the Department of Psychology in Blackpool.
    - The information will be locked in filing cabinets to which only the research team have access. The room in which the filing cabinets are stored will also be locked.
    - The information from the questionnaires will be entered into an electronic file on a computer in an anonymised manner, with names being replaced by identification codes.
    - The electronic data will be secured in a password protected computer (which has HSE encryption software installed). The password will only be retained by the co-investigators.
    - The anonymised electronic data will be stored for 10 years.

What will happen to the results?

The qualitative data from the workshops and questionnaires will be seen by my supervisors, a second marker, and the external examiner. The information will be presented in the thesis and through a facilitated workshop with services once the research is completed. The study may be published in a research journal.

Are there any potential negatives involved?

The risks involved are minimal, and it is not anticipated that you will experience any negatives based on your participation in any of the elements of the study. However, it is possible that the questions may be stressful for you. The researchers and the psychologist

supporting the research project will be available for consultation should emotional distress occur.

What will happen if I don't want to take part in the study?

You are completely free to decide whether you want to participate in this research study or not. If you consent to your participation, you are free to change your mind at any time, without giving a reason. Non-consent will not affect you in any way.

Who has reviewed this study?

This study has been approved by the Clinical Psychology Research and Ethics Panel of the University College Cork (UCC). Their job is to make sure that projects are safe and people are protected.

Contact Details

If you have any further questions about the research study, please contact Mareike Weihrauch: 0868223345 or 113221458@umail.ucc.ie or my supervisors or my supervisors Dr. Angela Veale (a.veale@ucc.ie) and Dr. Jennifer Hayes (Jennifer.Hayes@hse.ie).

AGREEMENT TO CONSENT (FRONTLINE STAFF)

Research Study: *"Exploring and Understanding Protective Factors and Needs of Refugee Families in Ireland"*

- The research study and what my participation entails have been fully explained to me.
- I have had the opportunity to ask questions concerning any and all aspects of the research study and any procedures involved.
- I am aware that participation is voluntary and that if I decide not to participate, or if I want to withdraw from the study, I may do so at any time, without consequences.
- I am aware that the information that is collected during the research study will remain confidential as appropriate.
- If I decide to withdraw from the study, I understand that the information collected for this research study will be stored confidentially unless I specifically request that it be destroyed.
- I have received a copy of the information leaflet for myself.
- I understand that if I have any questions about this research, I can discuss this with any of the researchers.
- I understand that the study has been approved by the Clinical Psychology Research and Ethics Panel of UCC. If I have further queries about the research, I can contact Mareike Weihrauch, 0868223345 or 113221458@umail.ucc.ie or her supervisors contact my supervisors Dr. Angela Veale (a.veale@ucc.ie) and Dr. Jennifer Hayes (Jennifer.Hayes@hse.ie).

Please indicate your consent to the different elements of the study by insert ticks in the appropriate boxes:

I have read and understood the study	Yes ☐	No ☐
I agree to participate in the workshop	Yes ☐	No ☐
I agree to complete the background questionnaire	Yes ☐	No ☐

Signature of Study Participant: _____

Contact Number or Email Address: _____

Investigator Signature: _____

Date: _____

Appendix E
Risk Protocol

Risk Management Protocol

Name: _____
GP: _____

Question	Follow-up criteria	Tick if fulfilled
20 *(Thoughts of ending your life)*	3 (Quite a bit) Or 4 (Extremely)	
AND either 17 **OR** 25 fulfilled		
17 *(Feeling hopeless about the future)*	3 (Quite a bit) Or 4 (Extremely)	
25 *(Feelings of worthlessness)*	3 (Quite a bit) Or 4 (Extremely)	

Decision: Follow up required Yes No
Notes:

Appendix F
Facilitators and Barriers List (*FaB-List*)

Below are a number of questions about experiences made or resources and stressors experienced by people who have resettled in Ireland from Syria and Iraq. Please answer each question by placing a tick in the appropriate box. If a question does not apply to you, please tick "Does not apply".

		No	**Some-what**	**Yes**	**Does not apply**
1	Did you have any English skills before coming to Ireland?				
2	Do you feel able to manage daily challenges such as understanding letters, making and attending appointments?				
3	Do you feel you have been able to create social support for you and your family?				
4	Have you made friendships with				
	• Other Syrian/ Iraqi people or families				
	• Irish or other non-Syrian/Iraqi people or families				
5	Have your children made friends in school, youth clubs or sport clubs?				
6	Have your children made friends with other Syrian/Iraqi children?				
7	Do you live close to other Syrian/ Iraqi families?				
8	Do you feel supported or accepted by the local Syrian or Iraqi community?				
9	Are you supporting any other Syrian or Iraqi families or individuals?				
10	Do you talk to your neighbours?				
11	Do you have a good or supportive relationship with your neighbours?				
12	Do you feel you can rely on or are supported by:				
	• Your partner				
	• Your immediate family (sons/daughters)				
	• Extended family (if in Ireland) (in laws/cousins)				
13	Are you caring or supporting a family member with:				
	• Physical disability				
	• Long-term illness (e.g. cancer, diabetes, chronic pain)				
	• Child with health difficulties				
	• Intellectual disability				
	• Emotional struggles/ difficulties				
14	Do you have any:				
	• Physical disability				
	• Long-term illness (e.g. cancer, diabetes, chronic pain)				
	• Intellectual disability				

	• Emotional struggles/difficulties				
	• Struggling to conceive/become pregnant				
15a	Do you feel responsible to care for or support your immediate family?				
16a	Are you widowed?				
16b	Do you feel recognized as a widow in Ireland?				
17	Did you come to Ireland on your own (without partner or family)				
18a	If widowed or single woman or man, do you see the potential or being hopeful for getting married in the near future (if that is something that you would like).				
18b	If widowed or single woman or man, do you think there are enough opportunities to marry someone from a similar background (geographically, faith based) in Ireland?				
19	Do you worry about your children with regard to:				
	• Their physical or emotional health				
	• Education				
	• Future marriage				
	• Finding work				
	• Potentially using substances or drugs				
19a	Do you think your children are progressing well in school?				
19b	Do you feel positive about your children having a relationship or getting married in the future?				
20	Can you access childcare or have someone mind your children so that you can participate in groups, classes, or attend health related appointments/ look after your own health?				
21	Do you have a local person or service that can provide support to you?				
22	Do you think you receive appropriate access to services for health-related matters in a realistic timeframe				
	• For yourself				
	• For your children				
23	Do you feel comfortable asking for support (practical, health, or emotional)?				
24a	Have you been able to find work?				
24b	If you have been able to find work, were you able to use your previously acquired skills or qualifications?				
25	Are you feeling hopeful or positive about being able to build a life in Ireland?				
26	Are you feeling hopeful or positive about your children being able to build a life in Ireland?				
27	Are you feeling that you have been able to adapt to life in Ireland and have accepted the different life?				
28	Are you feeling that your children have been able to adapt life in Ireland and have accepted the different life?				
29	Do you struggle financially/ worry about money?				
30	Do you have your own car or way of transport or access to public transport (bus or train)?				

31	Do you find the house provided to you meets your needs?				
32	Are you grieving the loss of a close family member?				
33	Do you have close family members in Syria/Jordan/Iraq/ Lebanon/etc?				
34	Were you able to bring family members to Ireland under family reunification?				
35	Were family reunification applications refused?				
36	Are you waiting for family reunification?				
37	Are you supporting family members that came under family reunification?				

Appendix G
Family Background Questionnaire



Family Questionnaire

To be completed by a family member supported by support worker

FAMILY ID: _____ (FOR OFFICE USE)

Filled out by (Name): _____

Position in family (e.g. Mother, Father): _____

Supported by (Name of Support Worker): _____

Date: _____

We are asking you a little about the background of your family. If there are any questions you don't want to answer, please feel free not to answer them.

If you choose not to answer, this does not in any way affect the support you receive now or in the future.

Note
For the purposes of this research, "family" relates to the nuclear family of mother, father and children (including adult children over 18).

Please fill out the form in BLOCK CAPITALS.

If you have any queries please contact the researcher:
Mareike Weihrauch 113221458@umail.ucc.ie

Q.1. Family Member Information

Key:
Family Member: Mother/Father/Child (including children aged 18 years or over)
Status: living in Ireland/Syria/Iraq; in refugee camp; as programme refugee in another country; asylum seeker; convention refugee; illegal resident; deceased; missing, etc.

Name	Family member	Age	Gender	Status

For adults: If you completed your education at primary or secondary level, please just tick in the appropriate box. If you left school early, please specify how many years of education you completed. For any courses or degrees completed please tick appropriate box.
For children: For children currently in education please refer to their class/grade; if necessary please specify if it's a special school for children with disabilities.

Name	Highest Education Level						Previous Occupations		Current Occupation
	Primary school	Secondary School	Other (e.g. special school)	Certificate/ Diploma	College/ University Degree		Syria/Iraq	Lebanon/Jordan	
					Undergraduate	Postgraduate			

Q.2.a English proficiency: *How well do you think have you and people in your family have learned English? (please tick appropriate cell).*

Name	**No proficiency**	**Some proficiency**	**Good proficiency**	**Fluent proficiency**

Q.2.b English proficiency (from support worker's perspective)

H*ow well have they learned English? (please tick appropriate cell)*

Name	No proficiency	Some proficiency	Good proficiency	Fluent proficiency

Q.3. Did you or any member of your family have any health complications (physical/emotional/developmental) before coming to Ireland?

Please name family members and provide information about the nature of their complication as well as whether they were diagnosed/struggled with it before or after coming to Ireland.

Q.4. Journey of Family (from leaving Syria/Iraq to their current location in Ireland)

- Approximate date your family left your country of origin (Syria or Iraq): _____
- Approximate date you and your family arrived in Ireland:_____
- Approximate date you and your family settled in housing in Cork or Kerry:_____

The following table asks for information where you resided after leaving your country of origin and for how long.

Please list locations, nature of location, and try to estimate the duration spend in each location if you can in the table below (including locations in Ireland). If any person in your family had a significantly different journey, for example because they joined you via reunification, please complete additional table provided at the end of this questionnaire.

Location (e.g. Lebanon, Jordan, Erbil, Ireland, etc.)	Nature of Location (please tick the appropriate cell). If there is another not listed, just write down nature of the location.					Duration (in weeks/ months/ years)
	With relatives/ friends	UHNCR Refugee Camp	Rented accommodation	Reception centre	Other	

AFTER COMING TO IRELAND

Q.5. Current Accommodation

5.a. General area:

Rural ☐ Suburban ☐ Urban ☐

5.b. Type of accommodation (please tick in appropriate cell)

	Detached	Semi-Detached	Terrace	Apartment
Privately rented				
Council owned				
Housing Association Kerry				
5 Year Lease				
10 Year Lease				

Other (please specify): _____
_____

Q.6. Integration

6.a.
How well do you think you and your family have integrated into the *Irish* community?

Very well ☐ Moderately well ☐ Not well at all ☐

Please provide some information (e.g. community centre, library, sports clubs, relationship with neighbours, peer support inside and outside of school/work, Childcare, KETB/CETB, Women's Centre, Playgroups, School, Sports, Music/Cultural facilities):

6.b.

How well do you think you and your family have connected to the *Syrian or Iraqi* community in Kerry or Cork?

Very well ☐ Moderately well ☐ Not well at all ☐

Please tick the different cultural community resources or facilities you are accessing:

Halal Shop ☐ Mosque ☐ Christian Church ☐ Friends with other Syrian/ Iraqi families ☐

Irish Syrian Community Group ☐

Other *(Please specify):*_____

Q.7.a Are there any issues that may stop you from connecting with other members of the Syrian or Iraqi community? Please describe:

Q.8. If you like, your support worker can provide some information here on what from their perspective have been facilitators and barriers for you to connect with other members of the Syrian or Iraqi community and/or to integrate in the Irish community in Cork/Kerry? Please describe:

Please name any specific supports and services that you have accessed or still access since you have arrived in Ireland (e.g. English Classes, HSE services, NGO services or Voluntary organisation services, etc.)

Q.10. What services or supports would you like to have gotten when you arrived but did not receive?

Q.11. Can you tell us about the what skills or strengths which you are able to offer to the community in Kerry/Cork?

Q.12. Have you had any difficulties since resettling in Ireland?
Please describe any challenging experiences that your family has experienced since resettling in Cork/Kerry that might have impacted on your wellbeing.

Q.13. Have you or your family had experiences of racism or discrimination since arriving in Ireland? Yes ☐ No☐ If you feel comfortable to share this please provide some information.

Q.14. Is there anything else that you would like to share with us about your experience since coming to Ireland and think is important to be heard? Please describe

Q15.a. Did your family come as part of the reunification programme? Yes/ No

Q15.b. Did this family bring any other family members to Ireland under the reunification programme? Yes/ No

Details:

Q4. Follow-on

If the journey of any family member significantly different from yours, please complete the table below for them.

Where did you reside after leaving your country of origin and for how long? Please list locations, nature of location, and try to estimate the duration spend in each location if you can in the table below (including locations in Ireland):

Location (e.g. Lebanon, Jordan, Erbil, Ireland, etc.)	Nature of Location (please tick the appropriate cell). If there is another not listed, just write down nature of the location.					Duration (in weeks/ months/ years)
	With relatives/ friends	UHNCR Refugee Camp	Rented accommodation	Reception centre	Other	

Thank you for taking the time to complete this questionnaire.

If you have any questions about this part of the research or would like to find access to supports, please contact the researchers.

Appendix H
Data cleaning and treatment of missing variables.

Imputation method used for clinical measures

Person-mean imputation was only applied to the mental health outcome scale and not any other scales or questions where scales and subscales are not established. Further, it was only applied for missing values that were at random missing rather than non-random. As agreed in discussions with a statistician, the cut-off for the person-mean imputation was only applied for people where less than 25% of the data was missing for a specific scale or subscale. The treatment of missing variables per scale are discussed per scale in the following.

Hopkins Symptom Checklist (total of 25 items, 2 subscales)

The missing data for this scale was evaluated as random. A total of 13 people out of 62 people had missing values, whereby for 12 people only one variable was missing. One person missed 7 values across the scale, with 6 being from the depression subscale, which was considered as missing due to the large number of missing items. For all the other people, person-mean imputation was applied to account for the missing value using either the person's anxiety or depression mean. This allowed that the mean for subscales did not change but makes the sum more comparable to those who do not have a missing value. For values for which the mean was imputed, the median was also imputed to check for the sensitivity of the technique and evaluate if the mean is a good reflection and not distorting the person's results on that scale. On this scale, the mean and medium imputation did not distort a person's result and affect the sensitivity of the scale, people remained either above or below cut-offs.

Physical Health Questionnaire (Somatic Complaints; total 15 items)

For males, one item is not applicable, as it asks about pain during menstruation. Therefore, this value is not missing at random. Nevertheless, the interpretation of scores is depending on sum scores not means, therefore, to be able to compare males and female scores, as discussed with a statistician, the scale for males was rescaled allowing the comparation of total scores for males and females. This was also relevant to categorise that sum of scores of people's levels of complaints as either low, medium, high etc using the same categorisation, independent on gender. Any other missing values were at random and accounted for using person-mean imputation if less than 25% (highest percentage missing per person was 20%, which only occurred once). For values for which the mean was imputed, the median was also imputed to check for the sensitivity of the technique and evaluate if the mean is a good reflection and not distorting the person's results on that scale. On this scale, the mean and medium imputation did not distort a person's result and affect the sensitivity of the scale, people remained within the categorisations of no somatic complaints, low, medium, or high somatic complaints.

Impact of Events Scale-Revised (total 22 items, 3 subscales)

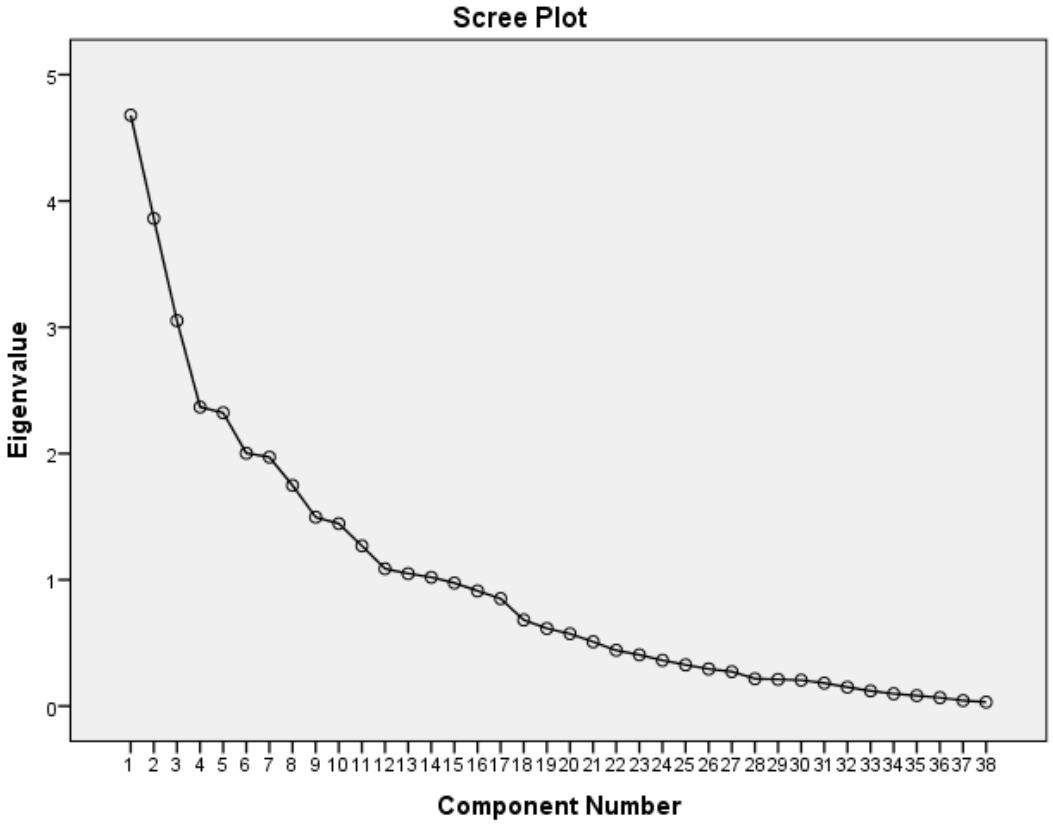
Missing values for this scale were at random. For all people, the missing values were calculated using person-mean imputation if the items missing did not exceed 25% for the corresponding subscale, as subscale means were used to calculate person-mean imputations. The sum score is generally used as a cut-off diagnostic score, similarly to the PHQ. For values for which the mean was imputed, the median was also imputed to check for the sensitivity of the technique and evaluate if the mean is a good reflection and not distorting the person's results on that scale. On this

scale, the mean and medium imputation did not distort a person's result and affect the sensitivity of the scale, people remained either above or below cut-offs.

Adult Resilience Measure (total of 28 items, 3 subscales)

Missing values for this scale were at random. Person-mean imputation was applied if less than 25% of the items were missing for the subscale the missing values belonged to. This meant that for 6 people the imputation technique was not applied as either overall too many items were missing, or too many items were missing within a subscale (more than 25%) and therefore, it was deemed inappropriate to calculate the mean for a subscale and use its mean for the missing values. For values for which the mean was imputed, the median was also imputed to check for the sensitivity of the technique and evaluate if the mean is a good reflection and not distorting the person's results on that scale. On this scale, the mean and medium imputation did not distort a person's result and affect the sensitivity of the scale, people's sum was not significantly different when means or mediums were used to account for missing values.

Appendix I
Orthogonal Varimax PCA



Total Variance Explained

	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.680	12.315	12.315	4.535	11.935	11.935
2	3.862	10.163	22.478	3.529	9.288	21.223
3	3.052	8.032	30.510	3.445	9.066	30.289
4	2.368	6.231	36.742	2.452	6.452	36.742

Extraction Method: Principal Component Analysis.

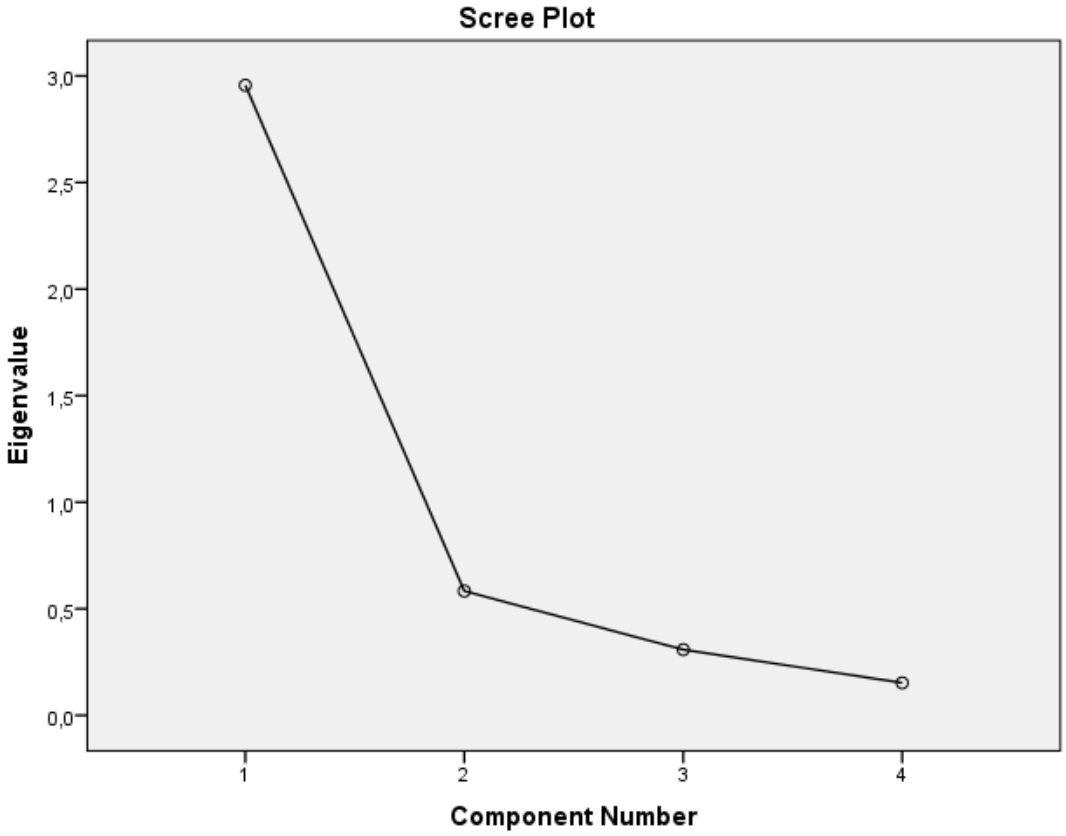
Rotated Component Matrix[a]

	Component			
	1	2	3	4
Q12aSuppPartner **Having a supportive/reliable partner**	.706	.072	.166	.230
Q4aFriendsIE **Having made friends with Irish people**	.704	-.184	-.010	.215
Q2DailyHassles **Managing daily challenges**	.647	-.134	.153	.222
Q18combinedreversed **Not feeling hopeful about future relationship if single**	-.624	-.006	-.104	.329
Q9SupportOtherSI **Supporting other Syrian/Iraqi families**	.573	.100	.320	-.031
Q30Transport **Having access to transport**	.565	.064	-.106	.043
Q14bLTI **Having a long-term illness**	-.561	.201	-.056	.155
Q15AND16 **Being widowed and not recognised**	-.551	.019	-.137	.384
Q3SocSup **Having created social supports**	.523	-.070	-.104	-.212
Q1Engl **Having had English skills before**	.429	-.211	-.032	.347
Q8AcceptanceSI **Feeling supported or accepted by the Syrian/Iraqi community**	.414	.013	-.109	.122
Q7ProximitySI **Living close to other Syrian/ Iraqi families**	.308	.184	.010	-.041
Q25FutureHope **Feeling hopeful about building life in Ireland**	.011	.680	-.067	.040
Q11NeighboursRel **Having good supportive relationship with neighbour**	.190	.672	-.150	.084
Q27AdaptSelf **Feeling able to adapt to life in Ireland**	.010	.671	-.059	-.196
Q23AskSupport **Feeling comfortable to ask for support**	-.127	.616	.165	.041
Q1ONeighbours **Talking to neighbours**	.404	.511	.026	.129
Q33FamSIJL **Having family members in Syria/Jordan/etc.**	-.151	.475	-.005	-.100
Q32LossFM **Having lost family member**	-.094	.472	.096	.096
Q4aFriendsSI **Having made friends with other Syrian/Iraqi families**	.287	-.406	-.283	.362
Q22AccessHealthSelf **Having appropriate access to services for health-related matters for self**	-.134	.378	-.067	.312
Q15aRespCareFamily **Feeling responsible to care for family**	.144	.268	-.042	.141
Q13eCareForSMH **Caring for Family member with emotional struggles**	-.218	.007	.745	-.016
Q37SupportReunificationFM **Supporting family member under family reunification**	.159	.023	.685	-.116
Q13aCareForPD **Caring for Family Member with physical disability**	.133	.030	.678	.140
Q13dCareForID **Caring for Family Member with ID**	-.061	.370	.658	-.152
Q34Reunification **Having been able to bring family members under family reunification**	.072	-.244	.554	-.191

Q13bCareForLTI **Caring for Family Member with long-term illness**	.244	.217	.474	.393
Q14cID **Having an ID**	-.001	.325	.458	-.190
Q14aPD **Having a physical disability**	-.183	.112	.291	.204
Q31Housing **Having Housing meeting needs**	.202	.208	-.289	-.156
Q21SupportServ **Having a local person or service that can provide support**	.070	-.138	.276	-.033
Q24aWork **Having found work and being able to use previous skills**	.093	-.157	.258	.151
Q29FinancialDiffic **Struggling financially**	.022	-.074	-.013	.648
Q17IEalone **Having come to Ireland alone**	-.205	-.015	-.007	.580
Q12bSuppImmFam **Feeling supported or being able to rely on immediate family**	.279	.127	.163	.433
Q36AwaitingReunification **Waiting for family reunification**	.083	.100	-.237	.403
Q35RefusalReunification **Having family reunification refused**	.016	.139	.136	.163

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Appendix J
Oblique Promax PCA



Component Matrix[a]

	Component 1
SumAxD	.932
SumDxD	.906
CorrectedSUMSomSympt	.854
IESRTotal	.732

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %
1	2.956	73.904	73.904

Extraction Method: Principal Component Analysis.

Appendix K
Explorative Linear Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	"Disruption in Connection/Feeling Stuck" "Major Life Challenges: Caring for Family Members and Personal Issues", "Building a New Life while having Family Abroad" "Close Meaningful Social Support and Connection"[b]	.	Enter

a. Dependent Variable: EmotionalDiffMH

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.491[a]	.241	.183	.90266956

a. Predictors: (Constant), "Disruption in Connection/Feeling Stuck", "Major Life Challenges: Caring for Family Members and Personal Issues", "Building a New Life while having Family Abroad", "Close Meaningful Social Support and Connection"

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.455	4	3.364	4.128	.006[b]
	Residual	42.370	52	.815		
	Total	55.826	56			

a. Dependent Variable: Mental Health Distress

b. Predictors: (Constant), Disruption in Connection/Feeling Stuck" "Major Life Challenges: Caring for Family Members and Personal Issues", "Building a New Life while having Family Abroad", "Close Meaningful Social Support and Connection"

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations		
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	.056	.120		.470	.640			
	"Close Meaningful Social Support and Connection"	-.360	.120	-.362	-2.994	.004	-.353	-.383	-.362
	"Building a New Life while having Family in Abroad"	.086	.117	.089	.737	.465	.095	.102	.089
	"Major Life Challenges: Caring for Family Members and Personal Issues"	.249	.118	.255	2.107	.040	.245	.280	.255
	"Disruption in Connection/Stuck in the Mud"	.202	.117	.208	1.722	.091	.203	.232	.208

a. Dependent Variable: EmotionalDiffMH

Appendix L

Overview of the Research Project and potential further Disseminations

The following provides on overview of the whole research project as conducted as part of the requirements for the Doctorate in Clinical Psychology. Only a part of the study and data was written up for the nature of this portfolio. Therefore, it is anticipated that further publications will stem from this project to contribute to the evidence base and inform service and policy delivery in Ireland. Initial thoughts regarding further potential disseminations are summarised following the overview of the research project.

General Overview of Study

This project was done to explore the experiences made by Syrian and Iraqi refugee families that have resettled in the South of Ireland under the Resettlement Programme. The project aimed at understanding facilitators and barriers experienced by families, local individual and community coping strategies, and the impact of those on their psychosocial needs. It considered the family as a whole across a multi-layered framework to be able to map needs and make recommendations for service and policy development across the triangle of service provision (See Figure 1).

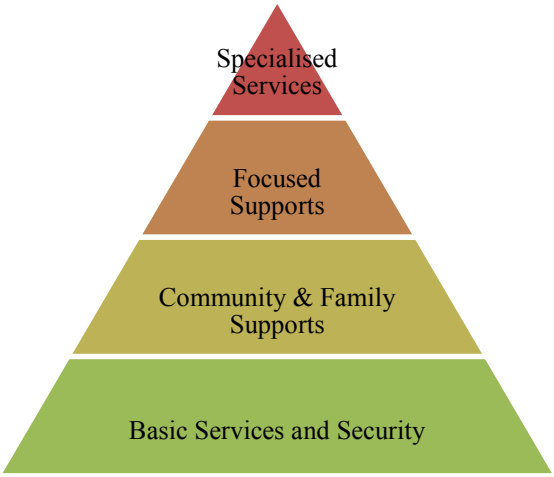


Figure 1: Study objectives and their relevance to service provision in Ireland adapted from Ager, Robinson, & Metzler (2014).

By identifying protective and risk factors, it can be considered how these can be maximised or minimised at each level and inform service delivery and development. Therefore, this project aimed to explore the following broader research questions:

Question 1:

- What factors have assisted refugees in adapting to life in Ireland and fostered their resilience and what factors have impeded adjustment to life in Ireland?

Question 2:

- What is the nature and extent of the mental health difficulties being experienced by Refugees residing in Cork and Kerry under the resettlement program?
    I. Is there a relationship between these protective and risk factors and mental health? This study will mainly involve collecting and focusing on adult refugees, but it will also compare the data of adults with data of refugee children.
    II. How can this information guide clinical practice and service delivery, improve outcomes for refugees, inform policy and enhance service development?
    III. How can the overall psychological wellbeing of refugees be supported?

Further Papers

1. Resettlement Experiences made by Refugee Families and Professionals

Participatory Action Research Workshops were facilitated to gain an understanding of the experiences made by families as well as professionals to strengthen local coping strategies, build on existing resources, and address gaps in service provision. This applied to families, professionals, and services. The qualitative information recorded in written format during workshops as well as audio-recorded and transcribed workshops with families were analysed using thematic analysis. Facilitators and barriers that were discussed by families and professionals were extracted and listed and added to the battery of assessment measures. The in-depth analysis and discussion of the qualitative information and themes particularly with a focus on local and community coping strategies and collaborate problem-solving as done during workshops is planned to be published in a separate study.

2. Mental Health and Resilience within Refugee Families

In the context of exploring the psychosocial wellbeing of whole families, this project also included the collection of children's psychosocial wellbeing. For this matter parents and teachers completed the Strength and Difficulties Questionnaire (SDQ). The preliminary exploration of the data indicated significant correlations between maternal symptoms of anxiety and depression and children's scores across the majority of the subscales of the SDQ on teacher rated questionnaires. Paternal mental health symptoms and Maternal symptoms of Posttraumatic Stress Disorder (PTSD) were associated with fewer subscales. Only some of the correlations were also found between children's outcomes as rated by parents and parental mental

health. Further analysis will be conducted to explore mental health within families and understand factors related to outcomes of families. This will be published in a separate study.

3. HSE Report

One of the main aims and drivers behind this project was to inform local and national policy and service delivery. Therefore, a report for the HSE and other governmental organisations will be written with a focus on the descriptive and explorative data analysis that had been done. The data discussed Further the report will be a summary will link the quantitative data and qualitative data in a more elaborative manner than possible in a journal article. The results are analysed and discussed within the Irish context across the different levels of service delivery with a broader focus on the needs and experiences made by families and professionals. The report will make clear recommendations for service and policy delivery to support and foster the adjustment, acculturation, and mental health of refugees resettling in Ireland. Additionally, it will make clear recommendations for services to support professional supporting refugee families across the multi-layered framework.