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Summary of Word Counts

Systematic Review of the Literature (SRL)	8007
Service Improvement Project (SIP)	5233
Theoretically-Driven Research Project (TDRP)	4998
Executive Summary	663
Connecting Narrative	991
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1. Abstracts

1.1. Systematic Review of the Literature

Title: Exploring Acculturation and Religious Beliefs and Their Impact on Psychological Wellbeing: A Systematic Review.

Background: Religion and spirituality have been described as an important factor in the process of integrating into a new culture, also known as acculturation, but the way these processes interact and their impact on mental health outcomes remains unclear. This review aims to evaluate the relationship between religious/spiritual beliefs, coping and acculturative processes in immigrant populations and their impact on wellbeing and mental health.

Methods: A systematic search was conducted to identify quantitative studies investigating interactions between religious belief, acculturation, and mental health and wellbeing in first generation migrant populations from the age of 16.

Results: Twenty-one studies were eligible and were reviewed systematically to examine the moderation and mediation interactions between factors relating to religion/spirituality, acculturation and wellbeing. The role of specific religious coping styles (e.g. positive/negative, internal/external), religiosity levels (public and private practices) and religious identification are highlighted as influencing the relationship between acculturation and mental health outcomes. Acculturation factors, including cultural orientation, social proxy variables (social support, immigration status and motives) and perceived discrimination also interact by mediating or moderating the relationship between religion variables and mental health outcomes.

Discussion: Conclusions on the magnitude of the causal relationship between variables are limited due to methodological variations in studies. A critical discussion including limitations and recommendations for future research is provided. In line with existing evidence, the role of the religious beliefs and practices of individuals changing cultures is indicated as a meaningful component in clinical interventions.

Keywords: acculturation, acculturative stress, religious belief, religious coping, spirituality, religiosity, wellbeing.

1.2. Service Improvement Project

Title: Access to Statutory Mental Health Provision for Service Users Experiencing Homelessness: Third Sector Perspectives

Background: A significant proportion of the frontline care work for individuals experiencing homelessness is carried out by charitable organisations, who often face challenges in helping their service users accessing statutory services. Overall, people experiencing homelessness (PEH) report poorer diagnoses and greater barriers to necessary healthcare, often resulting in higher use of emergency services.

Aims: This study aimed to understand the perceived barriers to accessing statutory mental health services (i.e., the National Health Service [NHS]) by third sector organisations that provide support to PEH and to make recommendations to facilitate collaboration between NHS mental health services and these third sector organisations.

Method: A reflexive thematic analysis of semi-structured interviews with managers and team leaders in third sector organisations was conducted. A focus group was conducted

with support workers in these organisations prior to the interviews to identify areas of interest and to inform the semi-structured interview schedule.

Results: Four themes were identified related to: (I) the experiences of third sector staff when supporting PEH; (II) NHS service provision for PEH; (III) how third sector staff perceive NHS mental health services; and (IV) how the third sector feels perceived by the NHS.

Conclusion: Findings highlight areas where barriers to accessing statutory mental health services are encountered and areas for improvement. Positive experiences of third sector staff where barriers to access to mental health care are reduced are also described. The findings form the basis for recommendations to the Oxfordshire Health and Homelessness Inclusion Team (OHHI).

1.3. Theoretically-Driven Research Project

Title: Negative Appraisals and Cognitive Processing of Traumatic Events in Migrant Populations Having Undergone Acculturation

Background: Acculturation is a dynamic stress process for those undergoing migration. To date, the association between acculturation and the processing of traumatic events has not been empirically explored.

Methods: The current study explores the relationship between acculturation levels, the cognitive processing of traumatic events and mental health outcomes. The sample consisted of 161 migrants living in the UK. A *k-means* cluster analysis was used to classify participants based on their level of acculturation. Analyses of covariance

(ANCOVAs) and regression analyses were used with SPSS version 29.0 to analyse cross-sectional data.

Results: Three clusters were identified from the data: higher and easier acculturation (HEA); higher and harder acculturation (HHA); and lower acculturation (LA). Gender and trauma exposure were identified as significant covariates. There were significant effects of acculturation on post-traumatic personal and public negative appraisal measures, and on post-traumatic stress disorder (PTSD) and depression symptoms. Individuals in the LA cluster presented significantly higher scores on these measures compared to the other two clusters. An exploratory mediation analysis revealed that PTSD, depression and anxiety symptoms can be predicted by acculturation through the mediating role of post-traumatic negative appraisals, with significant differences between HEA cluster and LA cluster, and between HHA cluster and LA cluster.

Conclusions: Overall, these findings shed light on the role of acculturation on the processing of traumatic events and subsequent mental health symptoms, both at the intrapersonal and the interpersonal level. That individuals with lower acculturation levels display clinical levels of mental health symptoms and more negative appraisals warrants the exploration of acculturative process in therapy.

Keywords: acculturation, negative appraisals, cognitive processing of trauma, PTSD, cultural distance.

2. Systematic Review of the Literature: Exploring Acculturation and Religious Beliefs and Their Impact on Psychological Wellbeing: A Systematic Review

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Proposed Journal: Journal of Religion and Health,

given its specific subject area and history of publishing papers on the topic of religious belief and mental health. The paper has been formatted according to journal guidelines (*Appendix 14*).

2.1. Abstract

Background: Religion and spirituality have been described as an important factor in the process of integrating into a new culture, also known as acculturation, but the way these processes interact and their impact on mental health outcomes remains unclear. This review aims to evaluate the relationship between religious/spiritual beliefs, coping and acculturative processes in immigrant populations and their impact on wellbeing and mental health.

Methods: A systematic search was conducted to identify quantitative studies investigating interactions between religious belief, acculturation, and mental health and wellbeing in first generation migrant populations from the age of 16.

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Discussion: Conclusions on the magnitude of the causal relationship between variables are limited due to methodological variations in studies. A critical discussion including limitations and recommendations for future research is provided. In line with existing evidence, the role of the religious beliefs and practices of individuals changing cultures is indicated as a meaningful component in clinical interventions.

Keywords: acculturation, acculturative stress, religious belief, religious coping, spirituality, religiosity, wellbeing

2.2. Introduction

Research highlights a need to expand understanding amongst health professionals in relation to acculturation and religious beliefs (Bignall et al., 2019; Rabiee & Smith, 2014). The relevance is underscored by the 2021 United Kingdom (UK) census data which indicated 18% of people in England/Wales belonged to an ethnic group other than white; one in six residents were born outside the UK — an increase of 2.5 million since 2011; and 57.9% of the total population reported being religious (e.g., Christian, Muslim, Hindu, Sikh, Buddhist, Jewish, or other) (Office for National Statistics, 2022).

Of particular clinical relevance is the fact that mentioning religion as a value to be considered in therapy has been shown to have positive impacts upon how individuals from diverse ethnic backgrounds perceive therapy (Hassan et al., 2024). However, individuals from diverse ethnic backgrounds present higher prevalences of common mental health disorders (National Health System [NHS] Digital, 2016), lower likelihoods of receiving assessments and subsequent treatments (Harwood et al., 2023), as well as higher dropout and lower recovery rates in mainstream psychological services than their White counterparts (Baker & Kirk-Wade, 2024). This suggests the existence of specific needs within culturally and religiously diverse groups.

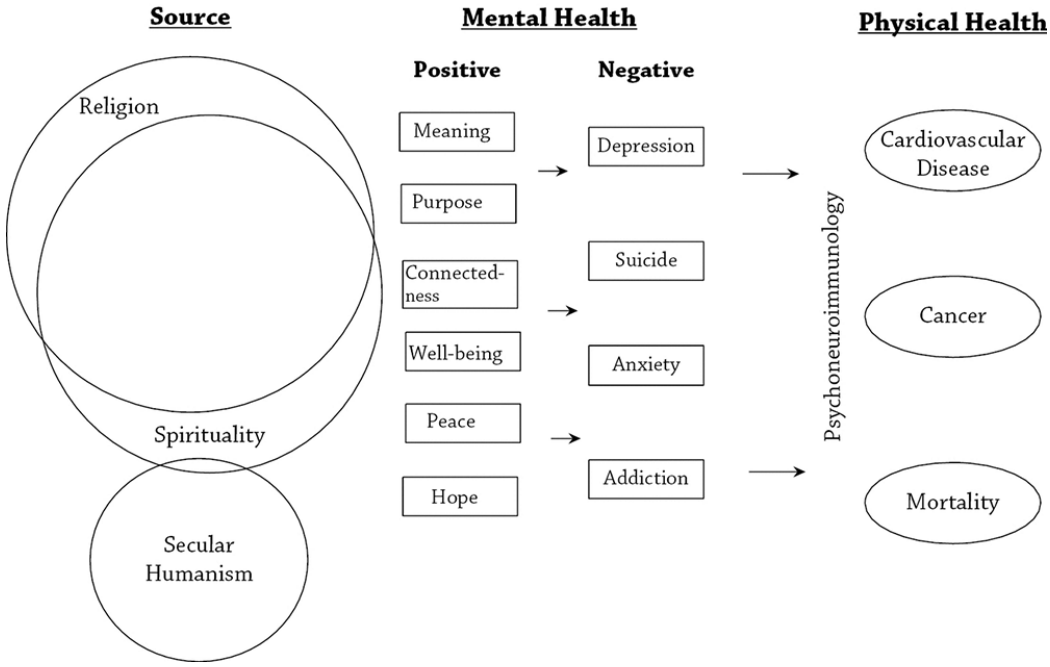
2.2.1. Religion and spirituality

There exist in the literature several ways of defining and classifying religiosity and spirituality. Throughout the last 60 years, the psychology of religion has defined religions as integrating four major components: (1) beliefs and cognitions in relation to transcendence [believing]; (2) specific moral rules and practices [behaving]; (3) collective and individual rituals and emotions that bond people with each other and with

transcendence [bonding], and (4) identification with a highly valuable and supposedly eternal group [belonging] (Saroglou, 2011; Saroglou & Cohen, 2013).

Koenig et al. (2024) highlight the importance of construct definition and operationalization of religion for research purposes as opposed to clinical practice. *Figure 1* illustrates the model proposed for conducting research in the domain of religion and spirituality, and how these are conceptualised as having an impact on mental and physical health.

Figure 1 *Model recommended for conducting research on religion and spirituality, (Koenig et al., 2024, p.13). Used with permission.*



Many dimensions have been described that pertain to religion and do not overlap with mental or physical health: religious affiliation, religious motivation (intrinsic vs extrinsic), public and private religious practices, subjective religiousness, religious connection or attachment, religious experiences, and religious coping (positive vs negative or internal vs external), among others (Koenig, 2011).

The definition of spirituality has evolved over time to include a much broader construct which includes both those that are religious, non-religious and even those who do not acknowledge that they are spiritual. With such little consensus, attempts to quantify spirituality have resulted in measures that heavily rely on indicators of good mental health, which, in turn, results in research findings being uninterpretable or tautological (Koenig et al., 2024).[1]

One of the most researched dimensions of religion and spirituality has been religious coping, which is described as "the use of cognitive and behavioural techniques, in the face of stressful life events, that arise out of one's religion or spirituality" (Tix & Frazier, 1998, p.411). Religious coping styles appear to be better predictors of mental health outcomes of stressful situations than measuring religiosity alone (Sanchez et al., 2012), and can vary depending on the religious affiliation of the individuals (Tix & Frazier, 1998). Pargament et al. (2000) described both positive and negative religious coping forms, which are related respectively to positive and negative psychological adjustment to stress (Ano & Vasconcelles, 2005), whilst other authors distinguish between internal and external religious coping, based respectively on the use of either private religious activities or outward expressions of religiosity (Boudreaux et al., 1995).

Religiousness has consistently been linked to positive indicators of wellbeing (Jackson et al., 2011). However, an increasing body of evidence suggests that internalized, intrinsically motivated religion and secure relationship with God positively correlates with psychological wellbeing, whilst a religion that is imposed, unexamined,

[1] In the present study, the term religion, religiosity, religiousness and spirituality are therefore used interchangeably to encompass both concepts of religion and spirituality – i.e., the overlap between the religion and the spirituality circles in *Fig 1*.

and reflective of a tenuous relationship with God and the world leads to poorer wellbeing outcomes (Pargament, 2002).

2.2.2. Acculturation and acculturative stress

According to Berry's model of acculturation (Berry, 1974, 1980, 1997), four acculturation strategies can be adopted by individuals navigating cross-cultural transitions, depending on (a) the approach to the heritage culture or identity and (b) whether the individual forms a positive relationship toward the host society. These are: integration, assimilation, separation and marginalization (*Fig 2*; Berry, 1980).

Figure 2 *Acculturation strategies, adapted from Berry (1980).*

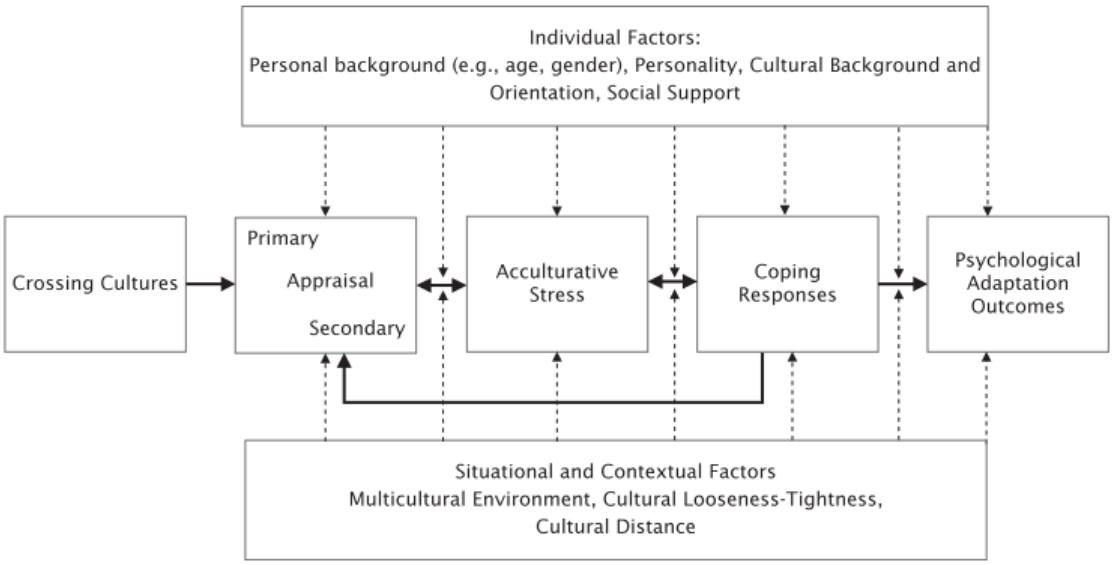
		Values and maintains home culture (Home orientation)	
		YES	NO
Values and maintains host culture (Host orientation)	YES	Integration	Assimilation
	NO	Separation	Marginalisation

A significant body of the research on acculturation has been effectuated with this framework in mind, aiming to ascertain which acculturation strategies result in better mental health and wellbeing outcomes (Choy et al., 2020; Schmitz & Schmitz, 2022). However, acculturation can be understood both as a process (i.e., prior to, during and after contact between cultures) or as a state (i.e., the relatively stable result following the process) (Berry, 1990).

As a process, acculturation can involve acculturative stress amidst the cognitive and behavioural shifts taking place at an individual and psychological level, both to the

individual acculturating, and the individuals in the host culture (Berry, 2017; Sam & Berry, 2010). Acculturative stress has also been conceptualised through the lens of stress and coping models (see *Fig 3;*Ward & Szabó, 2019).

Figure 3 *Model of Acculturative Stress and Coping* (Ward & Szabó, 2019). *Used with permission.*



There are substantial variations in stress phenomena based on individual differences (e.g., sex, age, education, attitudes and orientation), but also across social variables such as education, employment, host language proficiency, literacy, social support and status/reason for migrating (Berry et al., 1987). Acculturative stress has been linked to lowered mental health (anxiety, depression), feelings of marginality and alienation, heightened psychosomatic symptom levels and identity confusion (Berry, 1990; Choy et al., 2020; Nguyen, 2020). However, stress can also be viewed as an adaptive psychological state which motivates the group to prevent the disappearance of the cultural group in the host culture (Berry et al., 1987; Schwartz et al., 2010).

2.2.3. Crossing cultures and religion

In the process of moving from one culture to the other – during migration, for example – religion has been described as a moderator variable of the acculturation process taking place both prior and during contact with the new culture (Schmitz & Schmitz, 2022), in which individuals undergo cultural and psychological change (Berry, 2017). There is an increasing body of literature highlighting the role of religious beliefs and acculturative processes, how they may affect the perception and management of mental illness. However, it is not often taken into account in mental health service provision and, in the last few years, there has been a greater emphasis on the development of more holistic approaches that integrate mental health, physical health, culture, and belief (Bignall et al., 2019; Goncąlves et al., 2015).

Integrating the existing research on religion and culture has proved a difficult task, given the overlap between concepts and dimensions of both from different disciplines. In a sense, religions can be considered to be cultures (Saroglou & Cohen, 2013), and the experience of crossing cultures (i.e., undergoing acculturation) may be influenced by the religious beliefs of the person, and might, in turn, produce changes in their religiosity.

Religious beliefs and practices have been described as especially valuable in more stressful situations, where people are pushed to the limits of their own personal and social resources (Pargament, 2002). In the context of acculturation as a life stressor, it is reasonable to expect religion to play a role in that process. Moreover, the four dimensions of religion described by Saroglou (2011) (i.e. believing, behaving, bonding and belonging) apply to the process of acculturation and the changes the individual undergoes at a cognitive, moral, emotional and social level too.

It therefore seems pertinent to explore the relationship between religious beliefs and coping, and the acculturative processes. Both can be understood from the perspective of the stress and coping framework developed by Lazarus & Folkman (1984) as the theoretical underpinning model in their Transactional Model of Stress. The stress and coping outcomes relate to the achievement of psychological adaptation, including psychological and emotional wellbeing (see *Fig 3*; Searle & Ward, 1990; Ward & Szabó, 2019).

As part of the acculturation processes for immigrants, the negotiation between their home and the host cultures may result in the reinforcement and strengthening of their religious identity, or, on the contrary, may lead to changes in their religiosity and beliefs (Cadge & Ecklund, 2007; Plüss & Clarke, 2009). Some evidence suggests that some dimensions of religiosity do not necessarily lead to acculturation strategies which value the adoption of the host culture, such as integration, which is known to be successful for the acculturation process (Saroglou & Cohen, 2013). It is hypothesised that the degree of stigmatisation of an ethnic and religious group in the host context may play a role in increasing dis-identification with the host culture (Friedman & Saroglou, 2010). This has led to the emergence of a body of research investigating the effects of discrimination and perceived discrimination of immigrant groups pertaining to a different religious affiliation from the majority culture of the receiving country (Adam & Ward, 2016). The consequences of perceived discrimination on psychological wellbeing have been widely explored and it has been shown as harmful and negative overall (Schmitt et al., 2014).

2.2.4. Objectives

The aim of the present study is to systematically review the literature regarding spirituality and religious coping in the context of acculturation and acculturative stress in migrant populations, and its impact on psychological wellbeing.

The primary question to be addressed is: (1) How do religion/religious coping and acculturation variables interact in their impact on psychological wellbeing in first generation immigrants?

The secondary questions are: (2) What are the religious dimensions and factors that are likely to influence the associations between acculturation processes and mental health outcomes and wellbeing?; (3) what are acculturation variables that are likely to influence the associations between religion and mental health outcomes and wellbeing? (*Fig 4*); and (4) what are the clinical implications for psychological interventions for immigrants in their acculturation process?

Figure 4 *Hypothesised interactions between variables of interest, represented by the dotted lines. Note that direct arrows down impacting the relationship between the other two variables represent moderations, whereas the two arrows passing through the top variable represent mediations.*



3.3. Method

2.3.1. Eligibility criteria

Studies were included if they fulfilled the following criteria:

- Published in peer reviewed journals.
- Utilise quantitative study designs.
- Use Berry's (1980) acculturation model as their theoretical framework – therefore studies published after 1980.
- Sample is first generation migrants.
- Measure the interaction between the three variables (religiosity, acculturation and mental health/wellbeing) either through mediation or moderation models.
- Sample subjects aged 16 and above, as this coincides with the beginning of young adulthood (Arnett, 2000) and the last years of adolescence, where individuals begin to establish their identities within their broader sociocultural context (Erikson, 1950, 1968).

2.3.2. Search strategy

A review protocol was registered in PROSPERO (registration number: CRD42023420362; see *Appendix 2* for protocol) and PRISMA guidelines (Page et al., 2021) were followed for the study selection process (see *Figure 5*). Databases searched were PsycINFO, MEDLINE / Pubmed, Embase, CINAHL and Web of Science. The search terms included the following concepts: (a) "acculturation"; (b) "religiosity" or other dimensions of spirituality; (c) "mental health" and (d) "migrant". More terms were included in each of those four entries and combined with subject headings specific to each database (*Appendix 3*). Limitations were imposed during the search to include publications after 1980.

2.3.3. Selection process

Searches were performed on 11/03/2024. Titles and abstracts were used for initial screening followed by full-text screening by the lead author. At the stage of full-text screening, the reference list of all articles was screened and four more papers were identified that met the inclusion criteria. Searches were additionally re-run in January 2025 to explore any further articles published during the intervening period, with one more paper meeting the inclusion criteria.

Interrater reliability performed by the second researcher for a subset of the initial screening (20% of the total) and of the full-text screening (25% of the total) achieved almost perfect agreement (>.81): Cohen's kappa (initial screening) = .82 & Cohen's kappa (full-text) = .85 (Cohen, 1988; Fleiss et al., 2003). No automation tools were used in the process, except for the duplicate removal through EndNote upon importing from databases.

2.3.4. Data collection and synthesis

Data extraction focused on capturing contextual information related to: sample size, age range, study design, migrant country of origin (home country), migrant destination (host country), and religious affiliation, exclusion criteria or group comparison if specified.

With regards to the main variables of interest, the following information was extracted:

- **Religiosity measures**: categorised based on (I) public practices & rituals; (II) private practices & rituals; (III) religious commitment/identification; (IV) religious experiences; (V) religious coping positive & negative/internal & external.

- **Acculturation measures**: categorised based on (I) strategies/identification; (II) social/proxy variables of acculturation; (III) perceived discrimination; (IV) acculturative stress (as process).
- **Mental health outcome variable and measures**: categorised based on (I) common Mental Health Disorders (MDH) such as: anxiety, depression, post-traumatic stress disorder (PTSD), psychological distress; (II) stress (including acculturative stress as a state/outcome or resilience); (III) well-being indicators (satisfaction with life, Quality of Life (QoL), self-esteem).
- **Interaction term**: which of the three variables was studied as the interaction term (moderator or mediator) and the statistical method used.

Data extraction was completed by the first author. 50% of the papers were subject to data extraction in duplicate by the second researcher to reduce the risk of errors. Responses were compared and checked for agreement to identify discrepancies.

A narrative synthesis was conducted to summarise and analyse the range of dimensions measured for each of the three variables (religiosity, acculturation and mental health), how they interacted, and possible impact on mental health outcomes, following guidance by Campbell et al. (2020) and Popay et al. (2006) on conducting narrative synthesis (see *Appendix 4*). This synthesis method was selected because of the variability anticipated in variable measures based on the scoping search results, which did not warrant quantitative or mixed methods such as meta-analysis or effect size summaries.

2.3.5. Quality assessment

Quality assessment was performed using the NIH Study Quality Assessment Tool (Kmet et al., 2004). The interrater reliability for a subset of the included articles (30% by

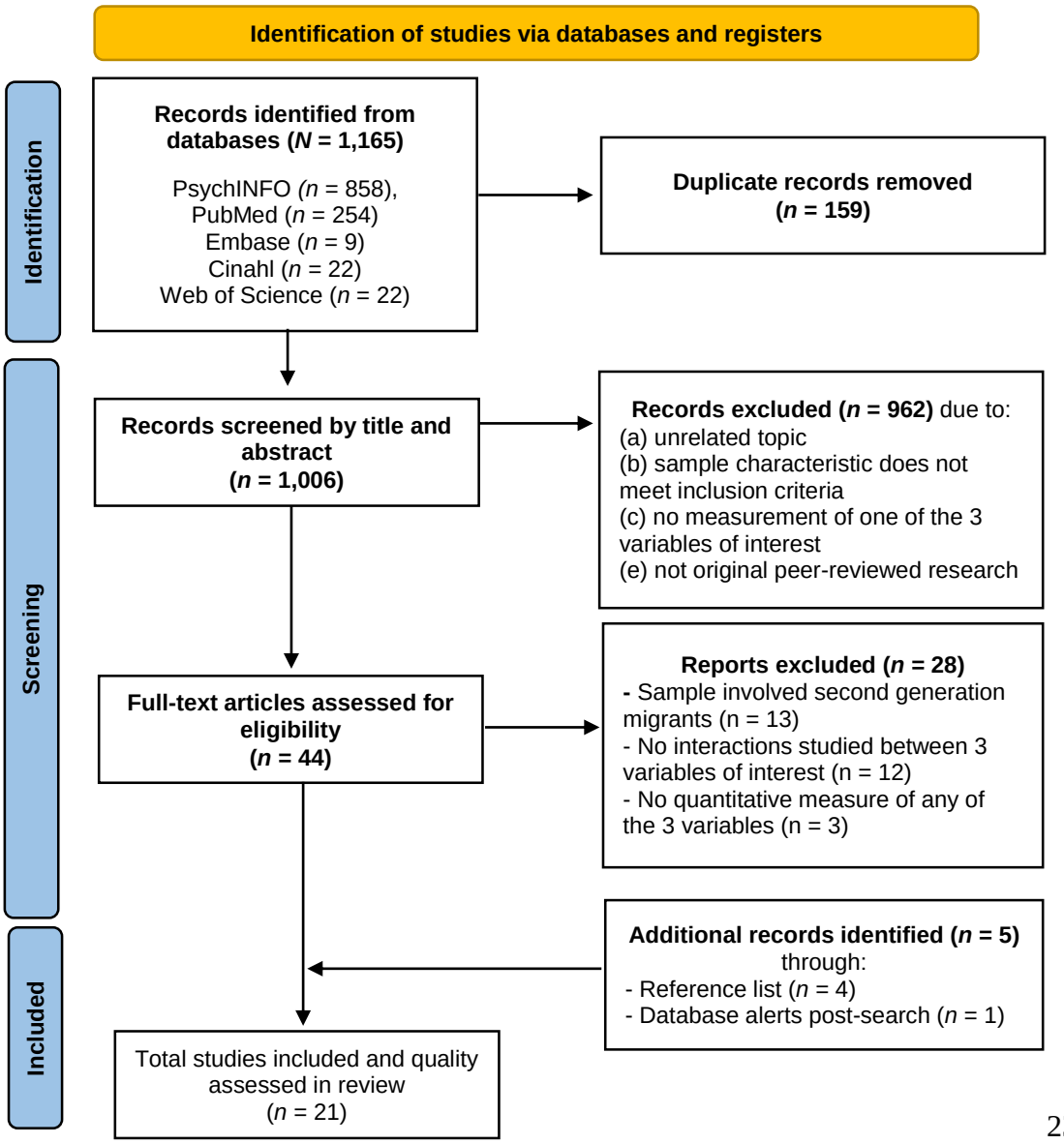
the second researcher) achieved almost perfect agreement (>.81): Cohen's kappa = .85 and Weighted Cohen's Kappa = .89 (Cohen, 1988; Fleiss et al., 2003).

2.4. Results

2.4.1. Study selection and characteristics

The selection process is detailed in *Figure 5*. Twenty-one studies were included in the final analysis. Key study design characteristics are summarised in *Table 1*.

Figure 5 *PRISMA Flowchart of Study Selection*



Sample sizes ranged from 70 to 561 participants (M = 303.14; SD = 160.21). All study designs were cross-sectional, except for one prospective study, and were correlational as well as examining the moderation or mediation of one variable over the relationship of the other two variables. Most studies encompassed all age ranges above 18 years (15 [71.4%]), whilst a minority focused on young adults (aged 16-34; 3 [14.3%]) or older adults (aged >65; 3 [14.3%]). All studies consisted of non-clinical samples (21 [100%]). Some studies were from the USA (14 [66.7%]), with the participants' country/region of origin being Korea (4 [19.0%]), Vietnam (2 [9.5%]), China (1 [4.8 %]), and Latin America (6 [28.5%]) or the Middle East (2 [9.5%]). Other studies were from Europe (Italy, Spain and Netherlands, 3 [14.3%]), the Middle East (Israel and Lebanon, 2 [9.5%]), and Australia (1 [4.8%]) and South Korea (1 [4.8%]); and the participants' country of origin mostly being from the Middle East or Central Asia (4 [19.0%]).

The religious affiliation of the samples consisted of Christians (2 [9.5%], either Protestant or Catholic, or both), Muslims (6 [28.5%]), Jewish (1[4.8%]), not reported, but likely Christian due to their country of origin's majority religious affiliation (10 [47.6%]), or unknown/mixed (2 [9.5%]). Most studies looked at migrant groups with religious affiliations similar to the host country majority religious affiliation (e.g., Latin Americans in USA, both have Christianity as the background majority religion) (15 [71.4%]), whilst others studied migrant groups with a minority religion in the host country (e.g., Muslims in Australia) (6 [28.6%]). Most studies reported similar sex ratios (male/female) (16 [76.2%]), whilst 4 studies had female-only samples ([19.0%]) and 1 [4.8%] reported a male sample of >80%.

Table 1 *Key Design Characteristics of Studies Included in the Review*

Authors	**Migrant country of origin**	**Migrant destination**	**Reasons for migration**	**Sample Size**	**Age (Mean (SD))**	**Gender (M/F)**	**Comparison group [1]**	**Religious affiliation (*) [2]**	**Total (%) Quality Appraisal score**	**Quality Rating [3]**
Al-Krenawi et al. (2021)	Saudi Arabia	USA	International Students	84	28.6 (8.3)	0/84	n/a	Muslim *	50	Low
Amit & Bar-Lev, (2015)	France & Former Soviet Union (FSU)	Israel	Salaried immigrants (after 1990)	French: 188 FSU:161	42.5 (13.5)	F: 84/104 FSU:70/91	French vs FSU	Jewish	54.5	Low
Bender et al. (2022)	Afghanistan	Netherlands	Refugees	170	31.27 (12.68)	119/64	n/a	Muslim *	77.3	High
Copolov et al. (2018)	Afghanistan	Australia	Refugees	70	21.56 (4.29)	50/20	n/a	Muslim *	90.9	High
Da Silva et al. (2017)	Latin America	USA	Recently arrived to US and intending to stay for at least four years	530 (F)	Range = 18-23	0/530	n/a	Christian	81.9	High
Dinh et al. (2009)	Mexico	USA	n/s	561	43 (14.5)	0/561	Migrant vs non-migrant	Christian	77.3	High
Flaskerud & Uman (1996)	Latin America	USA	n/s	491 (F)	27.8 (9.3)	0/491	Mexican vs Central/South America	Christian	59.1	Medium
Ghaffari & Çiftçi (2010)	Muslims (Turkish 19%, Pakistani 16%, Asian 9%, Arab 7% and Persian 6%)	USA	n/s	174	27.17 (8.52)	85/89	Male vs Female	Muslim *	77.3	High
Giuliani et al. (2018)	Muslim (NAfrica 67.5% - Morocco and Egypt)	Italy	n/s	204	45.6 (5.77)	72/50	1st vs 2nd generation Muslim	Muslim *	72.7	Medium
Kim et al. (2018)	China (120) and Korea (118)	USA	Unspecified	Chinese: 120 Korean: 118	K: 71.34 (4.96) C: 75.58 (6.95)	K: 53/65 C:51/69	Korean vs Chinese	n/s	81.8	High
Kim et al. (2020)	Korea	USA	n/s	214	51.96 (14.93)		n/a	Christian	59.1	Medium

Le et al. (2021)	Vietnam	USA	Post-Vietnam war	413	51.11 (5.46)	185/228	n/a	Christian	86.4	High
Nam (2023)	Sri Lanka	South Korea	Migrant workers	106	n/s; >20	87/19	n/a	Buddhist (*)	36.4	Low
Nguyen et al. (2021)	Vietnam	USA	n/s	513	44.2 (16.7)	295/218	n/a	n/s	68.2	Medium
Park & Roh (2013)	Korea	USA	n/s	200	72.5 (5.15)	115/85	n/a	n/s	81.8	High
Park et al.(2012)	Korea	USA	n/s	200	72.5 (5.15)	115/85	n/a	n/s	81.8	High
Sanchez et al. (2019)	Latin America	USA	n/s	408	28.73 (4.99)	221/187	Documented vs Undocumented	Christian	77.3	High
Sanchez et al. (2015)	Latin America	USA	Economic (54.4%), family reunion (25.5%), political (9.2%) & other (10.6%)	415	28.68 (5.10)	205/210	n/a	Christian	86.4	High
Sanchez et al. (2012)	Latin America	USA	economic (58.8%), family (23%), political (8.1%), & other (10.3%)	527	26.88 (4.99)		n/a	Christian	72.7	Medium
Kirchner & Patiño (2010)	Latin America	Spain	n/s	295	34.6 (9.8)	109/186	n/a	Christian	63.6	Medium
Abou-Abbass et al. (2024)	Syria	Lebanon	War / refugees	191	31 (11)	71/120	High vs Low Religiosity	Muslim	50	Low

[1]All studies were cross-sectional except Flaskerud & Uman (1996), which was longitudinal.
[2] Studies with (*) indicate if the majority religious affiliation differ between home and host country (e.g. Muslim migrants in a majority Christian host nation).
[3] Quality ratings: <55% = *low quality*; 55-75% = *medium quality*; >75% = *high quality*.

The reasons for migrating for the ethnic group were not always specified (14 [66.7%]). When specified, these included: forced migration/refugees (4 [19.0%]), labourers and migrant workers (2 [9.5%]), and international students (1 [4.8%]). Some studies only recruited recently arrived immigrants (<2 years; 3 [14.2%]).

Thirteen studies carried out within-groups comparisons [57.1%], whilst the rest (8 [38.1%]) looked at between-groups comparisons based on: gender (male vs female), country of origin (if sample consisted of two ethnic groups), migrant vs non-migrant or 1st vs 2nd generation migrants, documented vs undocumented migrants, and high vs low religiosity.

See *Table 2* for details on measures used in each study and the interaction between variables studied.

2.4.2. Measures of religiosity

All studies used self-reported measures of religiosity. Studies did not always specify the religious affiliation of their sample (unspecified 12 [57.1%]). Instead, some relied on uniformity of participant characteristics in relation to country of origin (e.g., assuming all Latin American have Christian affiliation; see Kirchner & Patiño, 2010; Sanchez et al., 2012, 2015, 2019). Three studies [14.3%] used single-item measures of religiosity (Al-Krenawi et al., 2021; Flaskerud & Uman, 1996; Kim et al., 2018), either related to religious attendance and involvement in public practices and rituals, or with religious sentiment or identification. Six studies [28.6%] utilised non-validated measures of religiosity (see *Table 2* for details).

The remaining 15 studies [71.4%] utilised one or more validated measures of religion focusing on: public practices and rituals (6 [28.6%]); private practices and rituals (6 [28.6%]); religious sentiment or identification (5 [23.8%]); religious experiences (2 [9.5%]); and religious coping (9 [42.9%]). The studies that measured religious coping utilised measures that conceptualised the construct as either positive/negative religious coping (6 [28.6%]) or

internal/external religious coping (3 [14.3%]). Some studies only used subscales of existing measures of dimensions of religiosity, or of measures addressing wider aspects related to coping or quality of life.

2.4.3. Measures of acculturation

The studies included a wide range of acculturation measures and constructs, including some proxy measures of acculturation through social variables, such as level of education, time spent in host country, income post-migration, proficiency in host country language, and presence of social support post-migration. Ten studies [47.6%] included such proxy social variables of acculturation, seven [33.3%] of which did not have a validated measure for those variables (e.g., length of stay in host country, self-reported host country language proficiency).

Some studies included measures of acculturation strategies and identification (6 [28.6%]), such as the Vancouver Index of Acculturation (VIA; Ryder et al., 2000), but others used non-validated measures with questions related to context-specific self-identification (e.g., sense of belonging).

'Perceived discrimination' was another sub-construct of acculturation that was measured in five studies [23.8%], either with a dichotomous item of perceiving being discriminated against in the host country, or through specific validated questionnaires, such as the Brief Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005) and individual items of wider validated questionnaires, such as the Post Migration Living Difficulties Checklist (PMLDS; Silove et al., 1998).

Lastly, six studies [28.6%] presented acculturative stress as a measure of the acculturation process, that is, how much a person has integrated (acculturated) to the host country. Each utilised a different questionnaire to measure acculturative stress.

2.4.4. Measures of mental health outcomes

All studies but one (Amit & Bar-Lev, 2015) utilised at least one, part of, or more than one validated measures of mental health outcomes, either related to general mental health (14 [66.7%]), or to psychological wellbeing (10 [47.6%]). Most studies (14 [66.7%]) measured general aspects of mental health. Some measured common mental health disorders such as depression (7 [33.3%]), anxiety (2 [9.5%]) and PTSD (2 [9.5%]).

Other studies approached mental health more broadly, by using measures of psychological distress (3 [14.3%]). One study [4.7%] measured problematic alcohol use as the mental health outcome, combining validated subscales related to alcohol use.

Two studies [9.5%] utilised a measure of stress related to immigration as a mental health outcome (using the HSIS by Cervantes et al., 1991). In these cases, acculturative stress as a state was considered as a mental health outcome (i.e., the dependent variable) rather than measuring the degree of acculturation as process (i.e., when conceptualised as the independent variable).

With regards to the measurement of psychological wellbeing found in 10 of the studies [47.6%], three studies [14.3%] used non-validated measures of life satisfaction developed for the purposes of the study. The rest utilised validated measures of either wellbeing, life satisfaction, or self-esteem.

Table 2 *Variables measured and interactions explored*

Authors	(A) Religiosity /spirituality focus	Religiosity/ spirituality measures	(B) Acculturation focus	Acculturation measures	(C) Mental Health Outcome	Mental Health Measures	Relationship explored	Interaction term
Al-Krenawi et al. (2021)	RSI *	Degree of religiosity (How important is religion? [1-4])	ASI & PD	Vancouver Index of Acculturation (VIA, Ryder et al., 2000); Multigroup Ethnic Identity Measure (MEIM, Phinney, 1992), Cultural Mistrust Inventory (Terrell & Terrell, 1981) & Youth Perceived Racism Scale (Berry et al., 2006) + Length of Stay in US	GMH (Dep & Anx)	Depression (BDI-II, Beck et al., 1996) & Anxiety (BAI, Steer et al., 1993)	Mod	Rel & Acc (ASI &PD)
Amit & Bar-Lev, (2015)	PriPR & RSI *	Religiosity level (observes religious tradition [1-4])	ASI & PSVA *	Sense of belonging (3 items); Ethnic segregation (3 items) & Ruppin Index (Amit & Chachashvili-Bollotin, 2007)	WB (life sat)*	Life satisfaction [1-5]	Med	Rel & Acc (PSVA)
Bender et al. (2022)	PubPR, PriPR, RSI, RC+	Psychological Measure of Islamic Religiousness, 4 subscales (PMIR; Abu Raiya et al., 2008)	ASI & PD	Dutch Identity scale (Verkuyten, 2005); Afghan identity scale (ibid) & Everyday Discrimination Scale (Williams et al., 1997).	WB	Well-being scale adapted from Bradley & Lewis (1990)	Med	Acc
Copolov et al. (2018)	RC	Religious Beliefs subscale in Acculturation and Resilience Scale (AARS, Khawaja et al., 2014)	ASI & PSVA *	Presence of immediate family (0-1); Acculturation and Resilience Scale (AARS, Khawaja et al., 2014)	GMH (PTSD)	Reactions of Adolescents to Traumatic Stress Questionnaire (RATS; Bean et al., 2006)	Med	Acc (+ MH: Absence of PTSD)
Da Silva et al. (2017)	RC+/-	Brief RCOPE (K. Pargament & Brant, 1998)	ASp & PSVA *	The Social, Attitudinal, Familial, Environmental Acculturative Stress Scale (SAFE; Mena et al., 1987), formal education level, time in US, employment status & immigration status	GMH (PsyD)	Brief Symptom Inventory (BSI: Derogatis & Fitzpatrick, 2004)	Mod	Rel
Dinh et al. (2009)	PubPR *	Religiosity Index (2 items: frequency in church attendance &	ASI & PSVA *	General Acculturation Index (GAI; (Balcazar et al., 1995); language proficiency, ethnic	GMH (Dep) & WB (life sat)	BDI-SF (Beck et al., 1996); Center for Epidemiological Studies - Depression scale	Med	Acc

		involvement in church activities)		peer affiliation, ethnic pride & family support		(CES-D; Radloff, 1977) & Life satisfaction (10-items)		
Flaskerud & Uman (1996)	PubPR *	Religious involvement (dichotomous)	PSVA *	Acculturation (12 items) & Social Support (Gottlieb, 1978)	WB (self-est)	Self-Esteem Inventory (SEI, Coopersmith, 1967), 24 items, dichotomous T/F.	Med/Mod	Rel & Acc (PSVA)
Ghaffari & Çiftçi (2010)	PubPR & PriPR	Religious behaviour (based on Steger and Frazier, 2005) & Muslim Attitude Towards Religion Scale (MARS; Wilde & Joseph, 1997)	PD	Brief Perceived Ethnic Discrimination Questionnaire - Community Version (Brondolo et al., 2005)	WB (self-est)	Rosenberg Self-Esteem Scale (Rosenberg, 1965)	Mod	Acc
Giuliani et al. (2018)	PubPR & RSI	Religious in-group identification (1 item) & 6 items from Güngör et al., 2011)	ASI & PD	Acculturation Attitudes Scale (AAS; Berry & Sabatier, 2010) & Perceived Discrimination (Fleischmann et al., 2011)	GMH (Dep) & WB (sat w/migration)	Satisfaction with migration decision (3 items ad hoc [1-5]) & Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977)	Med	Rel & Acc
Kim et al. (2018)	PubPR *	Religious Participation (RP), 1 item [0-7]	PSVA *	Limited English Proficiency & Assistance from children	GMH	36-item Short Form Survey (SF-36; McHorney et al., 1993)	Med	Rel (Acc & MH)
Kim et al. (2020)	PubPR, PriPC & RC+/-	Attachment to God Inventory (KGAI; Kim et al., 2017) & Brief Religious Coping (K-BRCOPE; Jo & Son, 2008)	ASp	Demands of Immigration Scale (K-DIS; Ding et al., 2011)	WB (life sat)	Satisfaction with Life Scale, Korean version (K-SWLS; Lim, 2015)	Med	Rel
Le et al. (2021)	PriPR, RSI	Assessment of Spirituality and Religious Sentiments (ASPIRES; Piedmont et al., 2023)	ASp	Multidimensional Acculturative Stress Inventory (MASI; Rodriguez et al., 2002)	GMH (Dep), WB (life sat)	Resilience in Midlife Scale (RIM; Ryan & Caltabiano, 2009); Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) & Riverside Life Satisfaction Scale (Margolis et al., 2019)	Mod	Rel & (Resilience)
Nam (2023)	RC int/ext	Religious Coping Scale (RCS; Sanchez et al., 2012)	ASp	Acculturative Stress Scale (ASS; Khusboo & Sandhu, 2013)	WB (life sat)	Life Satisfaction Scale (LSS; Diener et al., 1985)	Med	Rel
Nguyen et al. (2021)	PubPR & RSI *	2 items: frequency of religious attendance [1-4] & Percieved	PSVA & PD *	Perceived Discrimination (y/n); Lubben's Social	GMH (PsyD)	Kessler Psychological Distress Scale 6 (KPSD-6; Kessler et al., 2002)	Med	Rel & Acc (PSVA)

		importance of religion [1-4]		Network Scale-6 (LSNS-6; Lubben et al., 2006)				
Park & Roh (2013)	RE	Brief Multidimensional Measure of Religiousness/Spirituality (Bodling et al., 2013)	PSVA	Lubben Social Network Scale (LSNS-6; Lubben et al., 2006)	GMH (Dep)	Geriatric Depression Scale (GDS-30; Yesavage et al., 1982)	Med	Acc
Park et al.(2012)	PriPR, RSI, RE & RC	Brief Multidimensional Measure of Religiousness/Spirituality (Bodling et al., 2013)	PSVA	Lubben Social Network Scale (LSNS-6; Lubben et al., 2006)	WB (life sat)	Satisfaction with Life Scale (SWL; Diener et al., 1985)	Med	Acc
Sanchez et al. (2019)	RC ext	Ways of Religious Coping Scale (Boudreaux et al., 1995)	PSVA	Medical Outcome Social Support Survey (MOS; Sherbourne & Stewart, 1991)	ACso	Hispanic Stress Inventory Scale - Immigrant Version (HSIS-IV; Cervantes et al., 1991)	Med	Acc (PSVA)
Sanchez et al. (2015)	RC+/-	Brief RCOPE (K. Pargament & Brant, 1998)	ASp	Hispanic Stress Inventory Scale - Immigrant Version (Cervantes et al., 1991)	GMH (AM)	Alcohol Use Indentification Test, Spanish version (AUDIT; Babor et al., 2001) & Timeline Follow Back Interview, (TLFB; Sobell & Sobell, 1992)	Mod	Rel
Sanchez et al. (2012)	RC int/ext	Ways of Religious Coping Scale (Boudreaux et al., 1995)	PSVA *	Level of education, time in the US & income post-migration	ACso	Hispanic Stress Inventory Scale - Immigrant Version (HSIS-IV; (Cervantes et al., 1991)	Med	Rel
Kirchner & Patiño (2010)	RSI	Quality of Life Index (QLI-SP; Mezzich et al., 2000); Spiritual fulfilment subscale.	ASp	Perceived Stress Scale (S. Cohen et al., 1983)	GMH (Dep)	Symptom Checklist 90 Revised (SCL-90-R; Derogatis & Fitzpatrick, 2004)	Med	Rel
Abou-Abbass et al. (2024)	PubPR, PriPR & RSI	Belief into Action Scale (BIAC; Koenig et al., 2015)	PSVA & PD	Post-Migration Living Difficulties Checklist (PMLDS, Silove et al., 1998) Harvard Trauma Questionnaire (HTQ; Mollica et al., 1992)	GMH (Anx, Dep & PTSD)	PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015) Depression and Anxiety Scale-21 (DAS-21; Henry & Crawford, 2005))	Med	Rel

Note: (A) Religiosity/spirituality focus: Public Practices & Rituals (PubPR); Private Practices & Rituals (PriPR); Religious Sentiment / Identification (RSI); Religious Experiences (RE); Religious Coping (RC - positive/negative or internal/external). (B) Acculturation focus: Acculturation Strategies & Identification (ASI); Proxy Social Variables of Acculturation (PSVA); Perceived Discrimination (PD); Acculturative Stress (as process) (ASp). (C) Mental Health Outcome: General Mental Health [GMH; specify if Depression (Dep), Anxiety (Anx), Post Traumatic Stress Disorder (PTSD), Alcohol misuse (AM) or Psychological Distress (PsyD)]; Stress including Acculturative Stress as a State or Outcome (ACso).
Relationship explored: Moderation (Mod) & Mediation (Med). Interaction term: Religiosity (Rel), Acculturation (Acc; specify if >1 measure) or Mental Health (MH).
* Indicates non-validated measures.

2.4.5. Appraisal of studies

The Standard Quality Assessment criteria (Kmet et al., 2004) was applied to all studies that met the inclusion criteria (*Appendix 1*). The authors of the tool suggest cut-off points for article inclusion based on how conservative (>75%) or liberal (>55%) the benchmark is set. In the current review, however, we decided not to exclude articles based on their quality rating, but instead, to take the rating into account when assessing certainty of evidence. The rationale for that is three fold. Firstly, the present review aimed to be exploratory in nature. Secondly, the inclusion of peer-reviewed material and the exclusion of grey literature is assumed to exclude poor quality evidence from our selection, and thirdly, the studies screened did not intend to analyse effectiveness of interventions, which are several of the sources of bias that Kmet et al. (2004) to analyse with their tool (see Baines et al., 2018).

The overall quality of the studies was rated as medium (M = 70.78; SD = 14.49), with four articles rated as low quality (<55% quality rating; Abou-Abbass et al., 2024; Al-Krenawi et al., 2021; Amit & Bar-Lev, 2015 and Nam, 2023), six studies as medium quality (55-75% quality rating; Flaskerud & Uman, 1996; Giuliani et al., 2018; Kim et al., 2020; Nguyen et al., 2021; Sanchez et al., 2012 and Kirchner & Patiño, 2010), and eleven as high quality (>80%).

Research questions, study design, and populations across studies were generally well-defined. However, most designs were correlational and often did not use validated measures for each of the three variables of interest (Ding et al., 2011; Nguyen et al., 2021). Appropriate justification for sample size was variable across studies, and convenience sampling and use of survey/cohort data was quite prevalent (Da Silva et al., 2017; Sanchez et al., 2012, 2015, 2019).

Control for confounding variables was not always done nor consistent across studies. Some confounds, predominantly of acculturation and, to a lesser degree, of religion, included were: age and time since immigration, ethnicity, gender, language, religious status, education, health, income, marital status and personality factors (Flaskerud & Uman, 1996; Ghaffari & Çiftçi, 2010; Kirchner & Patiño, 2010; Le et al., 2021; Park et al., 2012).

2.4.6. How do religion and acculturation variables interact in their impact on psychological wellbeing?

All the studies included in this review included correlational analyses between the three variables of interest – religion, acculturation and mental health or wellbeing outcomes – as a preliminary analysis. With regards to mediation and moderation analyses, eight studies (38.1%) investigated the relationship between acculturation and mental health outcomes with religion as the interaction term, five of which tested the religion variable as a mediator of the other two, and the remaining three through moderation analyses.

Seven studies (33.3%) investigated the relationship between religion variables and mental health outcomes with acculturation variables as the interaction term. To test that interaction, six studies (28.6%) carried out mediation analyses, and one study moderation analysis.

Five studies (23.8%) investigated both religion and acculturation variables as mediators (4 [19%]) and moderators (1 [4.8%]) of the remaining variables, and one study carried out multiple mediator model analyses to evaluate the best predictor variable (Kim et al., 2018).

Contrary to what was expected from the available literature (Choy et al., 2020; Schmitz & Schmitz, 2022), only six studies (28.6%) looked at the relationship between different acculturation

strategies and religion variables and its impact on mental health, but did not investigate it from a bi-dimensional perspective (i.e., distinguishing between acculturation strategies, see *Fig 2*).

Eight studies (38.1%) utilised a between-groups comparison based on expected group differences such as ethnicity/country of origin (Amit & Bar-Lev, 2015; Flaskerud & Uman, 1996; Kim et al., 2018), male vs female (Ghaffari & Çiftçi, 2010), and immigration status (Sanchez et al., 2019), for fully migrant samples. Only two studies investigated the difference between migrants and non-migrants and between first- and second-generation migrants respectively (Dinh et al., 2009; Giuliani et al., 2018).

Of the studies that compared different ethnic groups, group differences in how the three variables interacted were found, and hypothesised to be due to various sociodemographic variables such as level of education, religious affiliation (e.g., protestant vs catholic) and age (Flaskerud & Uman, 1996).

2.4.7. What are the religion dimensions and factors that are likely to influence the associations between acculturation processes and mental health outcomes and wellbeing?

Levels of Religiosity

Religiosity levels (including religious sentiment and identification and religious involvement either publicly or privately) were reported to be effect modifiers of the associations between acculturation factors and common mental health disorders. Kirchner & Patiño (2010) found mediating effects of religiosity on the relationship between acculturation stress and depression, but only present in women, not in men. Abou-Abbass et al., (2024), on the other hand, found a similar effect but only for those reporting lower levels of religiosity, whereby discrimination,

unemployment and separation from family was found to be a risk factor for disorders such as PTSD and depression. Although the quality rating of Abou-Abbas et al.'s (2024) study is low and should be weighed out, the absence of such relationships for those reporting higher religiosity in two of the studies reviewed may suggest a protective role of religion against common mental health problems. These may differ based on gender, but it also highlights the importance of the socio-cultural context of the migrant sample, that is, whether their religious background matches that of the host country or not.

Other studies investigating this relationship did not find significant interaction effects of religion on the association between acculturative stress and wellbeing (Al-Krenawi et al., 2021; Dinh et al., 2009; Flaskerud & Uman, 1996; Giuliani et al., 2018; Le et al., 2021; Nguyen et al., 2021), or only found it in one subsample when different ethnic groups were analysed – Kim et al. (2018) found that the mediation model was supported in the Chinese sample but not in the Korean sample in the USA, and Amit & Bar-Lev (2015) reported group differences between their two sub-samples, French and Former Soviet Union, in Israel, although did not distinguish between the two in the mediational models tested, and their study scored lower in the quality assessment tool, suggesting unaddressed sources of bias and non-generalisability of results.

Religious Coping

Overall, studies investigating the role of religious coping in mediating or moderating impact on the relationship between acculturation and mental health outcomes reported findings congruent with the existing theories of stress: it is not only the extent of stress exposure, but also a person's resources (coping strategies) which will impact their wellbeing (Da Silva et al., 2017). Kim et al. (2020), however, approached the concept of religious coping from an attachment perspective, and

found that distress activates attachment to God as an internal working model which is then translated into religious coping as an attachment behaviour.

Internal vs External: Internal and external religious coping were found to have positive mediating effects on the relationship between acculturative stress and life satisfaction (Nam, 2023), and on acculturative stress as an outcome depending on acculturation proxy variables such as the level of education, time since migration and income (Sanchez et al., 2012). However, whereas Nam's (2023) study reported a higher mediating effect of external religious coping compared to internal religious coping, indicating that both internal and external religious coping play a positive role on that relationship, Sanchez et al. (2012) reported that external religious coping was associated with higher levels of acculturative stress in recently arrived migrants. They hypothesise that the loss of valuable resources (e.g., religious community) soon after migration could make people more vulnerable to experiencing acculturative stress if these are not available in the host country. It should be noted, however, that Nam's (2023) paper scored the lowest in the quality appraisal tool, which indicates potential unaddressed sources of bias in the evidence presented.

Positive vs Negative: all studies that investigated positive and negative religious coping as the interaction term found that negative religious coping was a significant moderator of the relationships between acculturative stress and psychological distress (Da Silva et al., 2017), and acculturative stress and problematic alcohol use (Sanchez et al., 2015), and that it was a mediator between acculturative stress and life satisfaction (Kim et al., 2020). In all three cases, the more negative religious coping reported, the more negative impact acculturative stress had on wellbeing, suggesting that negative religious coping may change the meaning of stress by increasing feelings

of hopelessness, frustration, and distress, and the subsequent increase in alcohol use, which has also been described as a negative coping mechanism in the literature (Cox et al., 1988). On the other hand, neither of these studies found a significant association between acculturation stress and wellbeing through positive religious coping, not supporting the theory with regards to positive religious coping as protective against the effects of stress on health outcomes.

2.4.8. What are the acculturation variables that are likely to influence the associations between religion and mental health outcomes and wellbeing?

Acculturation Strategies and Identification

Acculturation to the new culture, defined as identification to both home and host cultures, has been found to be a significant predictor of personal wellbeing, and mediates the relationship between spirituality and wellbeing (Copolov et al., 2018). This suggests that, for immigrants and refugees, their religion is core to their adaptation to their host country and can have a positive impact on acculturation.

Dinh et al. (2009), found that more acculturated individuals reported lower levels of religiosity, perhaps influenced by length of stay in the host country, which was one of the variables of acculturation used. However, with the exception of two studies (Flaskerud & Uman, 1996; Sanchez et al., 2012), none of the remaining study designs approached religion variables as changing over time as a result of the acculturation process. Thus, it is difficult to elucidate the temporal order of psychological distress and religious coping strategies based on acculturation strategies and identification. For instance, it may be that unassessed mental health problems precipitate an increase use of negative religious coping after migration (Da Silva et al., 2017).

Social and Proxy Variables of Acculturation

Some of the social variables of acculturation that interact with the relationship between religion variables and mental health outcomes are as follows:

Social support: Park et al. (2012) found that social support partially mediated the relationship between religiosity and life satisfaction, which was found to be positive in their sample of elderly Korean immigrants in the USA, suggesting the protective role of social support and religiosity against acculturative stress as a mental health outcome. Sanchez et al. (2019) reported similar results showing that social support mediated the relationship between external religious coping and acculturative stress for recent Latino migrants in the USA. The higher the level of external religious coping, the greater the social support, as well as acculturative stress. This relationship was only significant among undocumented migrants, perhaps pointing to the role of religious organisations in the lives of undocumented immigrants through the provision of social support. Social support in the form of the presence of immediate family in the host country (Copolov et al., 2018) and family support (Dinh et al., 2009) was found to also significantly contribute to personal wellbeing, and Park & Roh (2013) found a mediating role of social support between daily spiritual experiences and depression, hypothesising that religious practices exert positive effects through social influences and ties, which in turn may prevent or ameliorate depression; or that individuals who practice religion have a sense of connection to others, which leads to social engagement.

Immigration status: Sanchez et al. (2019) found that immigration status significantly moderated the association between religious social capital and acculturative stress as an outcome in their sample of recently arrived migrants. This could perhaps be explained by the limited number

of resources to which undocumented migrants have access, and that people may seek religious institutions for moral or social support due to them being familiar and culturally relevant to them.

Reason for immigration: plays an important role in individuals' sense of belonging and subsequent overall wellbeing. Although not specifically reported in all the studies included, some of the reasons for migrating were: economic reasons, reuniting with family, political (e.g., refugees) and education. Amit & Bar-Lev (2015) tentatively point to religious and ideological motives as a significant factor that may act as a mediator variable in the relationship between life satisfaction and the acculturation strategies utilised. Giuliani et al. (2018) also report that the more important the religious dimension was for Muslims living in Europe, the more dissatisfied individuals were with their choice to leave their country of origin. Cultural and religious distance between home and host countries may strengthen this relationship.

Perceived Discrimination

Perceived discrimination is a variable of acculturation that has been shown to affect the direction and strength of the relationship between religious behaviours and practices and wellbeing, in particular, self-esteem (Schmitt et al., 2014). This moderating role of perceived discrimination suggests that, under high levels of discrimination: (a) a high degree of religiosity may not be enough to buffer the effects of discrimination on wellbeing, (b) individuals may identify stronger with their religious practices, and remain devoted to them despite religious discrimination (Ghaffari & Çiftçi, 2010). Other associations found between perceived discrimination and education and religiosity (Nguyen et al., 2021) point to a higher susceptibility to discriminatory experiences among those with limited personal resources during their acculturation process.

Bender et al. (2022) identified differences between religious practices and religious beliefs (external vs internal) and their interaction with perceived discrimination and wellbeing. Whereas those who scored higher on religious practices perceived more discrimination which negatively related to wellbeing, those who scored high on religious beliefs showed reduced perceptions of discrimination which also lowered its negative impact on wellbeing. Additionally, perceived discrimination also mediated the relationship between religious practices and identification to the host culture more than to the home culture, in the context of Muslim immigrants to Europe.

2.5. Discussion

2.5.1. Overview of findings

To our knowledge, this is the first systematic review investigating the relationship between religion, acculturation and psychological wellbeing and how these variables interact with one another. On the one hand, four of the studies presented low quality of evidence (Abou-Abbas et al., 2024; Al-Krenawi et al., 2021; Amit & Bar-Lev, 2015; Nam, 2023), with a lack of control for confounding variables, small samples, analytic methods poorly described or justified, and results reported in insufficient detail. The better quality of evidence, on the other hand, can be found in eleven of the studies scoring high in the quality assessment tool (Bender et al., 2022; Copolov et al., 2018; Da Silva et al., 2017; Dinh et al., 2009; Ghaffari & Çiftçi, 2010; Kim et al., 2018; Le et al., 2021; Park et al., 2012; Park & Roh, 2013; Sanchez et al., 2015, 2019). These found a combination of significant and non-significant interaction effects between the variables in their samples, which highlights the heterogeneity found in the literature in the measurement, study design and sample characteristics of the research in this field.

With regards to religion variables as the interaction term between acculturative processes and mental health outcomes, many of the studies reported no significant interaction effects of certain facets of religion on the association between acculturation variables and wellbeing, which could be explained by multiple factors, such as utilising unidimensional measures of religion. For example, religious participation as an indicator of levels of religion (Le et al., 2021), or a single-item question about how important religion is to the individual (Al-Krenawi et al., 2021) does not capture the multifaceted nature of these effect-modifying factors of religious belief (Levin & Chatters, 1998).

Reported findings related to religious coping are congruent with the existing theories of stress (Ward & Szabó, 2019). Specifically, the link between religious coping and its impact on acculturation and wellbeing is significant when it comes to external and negative religious coping, rather than internal and positive religious coping. Overall, this suggests that maladaptive facets of religiousness can exacerbate acute and chronic stressors (which are prevalent in the process of acculturation), while making mental health-related problems more debilitating, which supports the available literature on intrinsically vs extrinsically motivated religion (Pargament, 2002).

Although not explicitly reported in the articles included in this review, it appeared that the cultural distance between the migrant and host country plays an important role in the acculturation and impact of their religion on their mental health outcomes. The way the religious background, practices and beliefs of the migrant group is perceived by the host culture will have an impact on whether religiosity buffers the impact of acculturation factors on wellbeing. Some studies include perceived discrimination as a measure of acculturation which aims to capture some of the impact which cultural distance has in that process. Whilst religiosity has been linked to positive indicators

of wellbeing (Jackson et al., 2011), we suggest, based on the evidence available, that when coupled with significant stressors in the acculturation process, the impact it will have on psychological wellbeing will differ.

Cultural distance has been described as one of the variables contributing to acculturation and acculturative stress (Searle & Ward, 1990). However, the challenges of objectively measuring how different two cultures are have led researchers to approach this variable from a subjective perspective (i.e., measuring perceived cultural distance; see Melkonian et al., 2019). None of the studies included in the review factored in the perceived distance in religious belief between their home and host cultures in their methodology, although the consideration of its impact is discussed in the interpretation of results.

The lack of reported acculturation orientation and strategies in the articles included contrasted with the available literature (Choy et al., 2020; Schmitz & Schmitz, 2022), and highlights the ongoing difficulties in conceptualising the dimensions of acculturative process in which religion plays a part (Ward, 2008).

There were several acculturation variables which interacted with religiosity and wellbeing which are congruent with social and proxy variables of acculturation as described in the literature (Berry et al., 1987): social support, immigration status and reasons for migration. The latter plays a significant role in the impact and utilisation of religious coping, particularly for forced migrants (e.g., refugees), in line with existing evidence (Grzymała-Moszczyńska & Kanal, 2019; Silove et al., 2017).

The fact that various aspects of religion interacted differently with acculturation and wellbeing outcomes (religious practices vs religious beliefs; see Bender et al., 2022) suggests that religious beliefs inform broader belief systems which help individuals make sense of their acculturation experience – e.g., fairness of the world, beliefs in good outcomes for enduring difficulty, or understanding adversities as spiritual opportunities.

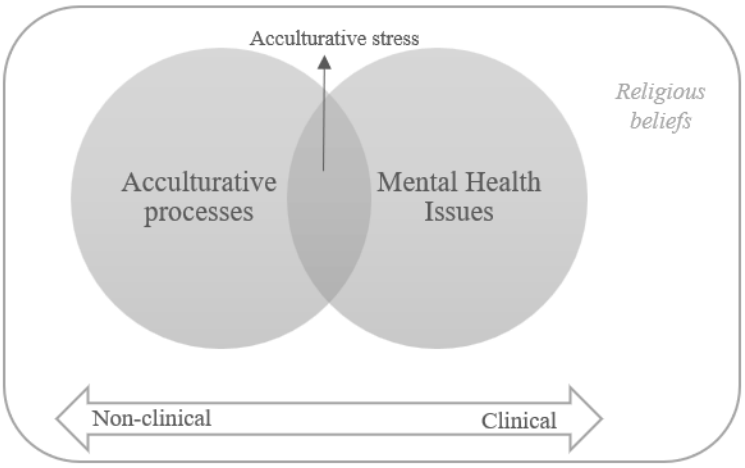
2.5.2. Theoretical and clinical implications

In view of these findings, there is a need for practitioners to focus on psychological and psychosocial interventions which strengthen spiritual needs, in order to improve mental health among migrant populations. Sanchez et al. (2012) posit that mental health practitioners should enhance their skills in navigating religious issues within clinical process, which would be evident in: demonstrating comfort in asking and talking about religious issues; a willingness to understand clients' religion and how it relates to their mental health; a degree of familiarity with beliefs, values and practices among the migrant populations of their area; and a willingness to seek information from appropriate professionals and coordinate care around the clients' religious and spiritual traditions where possible.

Constructs such as acculturative stress and religiosity require attention in clinical practice. For instance, distinguishing between acculturative stress as a process of adaptation for relatively newly-arrived individuals and acculturative stress as an outcome is paramount when supporting individuals who might present in clinical mental health settings (see *Fig 6*). This will prevent practitioners from pathologising acculturative stress. Instead, they could support individuals to

understand acculturative stress in the framework of immigration, and how religious beliefs inform the response to the host country culture.

Figure 6 *Proposed conceptual approach for clinical practice*



Thus, practitioners will more likely understand migrants' clinical presentations when they take into account their religious beliefs and how those beliefs and practices might either help or hinder their recovery – i.e., religious coping. Similarly, over-simplifying religion to one dimension (e.g., affiliation, or religious coping styles), disregards the various facets of religion that are at play.

Differential findings in the mediation models based on country of origin (see Flaskerud & Uman, 1996; Kim et al., 2018) suggest that healthcare provision and social service professionals need to be aware of the unique challenges faced by specific migrant groups and warrant against a reductionist one-size-fits-all approaches to care.

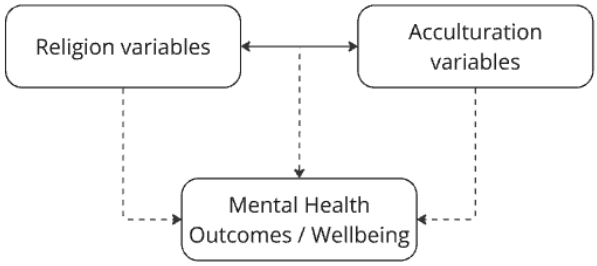
2.5.3. Limitations

Due to the heterogeneity of the studies, particularly regarding how each variable is measured, a meta-analysis was not appropriate for this particular review. Additionally, drawing

commonalities between studies remains limited due to conceptual differences in the measurement of acculturation and religion, the variability of samples and acculturating contexts, and the convenience sampling technique used in most studies. The authors had to make decisions with regards to whether a variable measured should be included as a measure of religion or acculturation as a process. Some study designs did not have a clear underpinning theoretical model they were seeking to test, hence the difficulty in drawing conclusions, and the risk of inter-correlations and overlapping constructs.

Additionally, there are some known confounders in relation to acculturation which prevent the generalisation of results. For example, recently arrived migrants will present with acculturation processes that are very different to those who have migrated a long time ago. Thus, it becomes harder to ascertain how religion might have changed as a result of acculturation, and how much acculturative processes are influenced by religion, and their subsequent impact on mental health (*Fig 7*).

Figure 7 *Dynamic model of acculturation and religion*



Furthermore, from the perspective of Berry's model of acculturation (Berry, 2017; Sam & Berry, 2010), the impact of the host majority's attitudes are not often taken into account in study designs, except for those which add perceived discrimination as one of their variables.

All studies relied on self-reported measures for the three variables of interest, with the exception of some proxy social variables of acculturation, which were often used as confounding variables rather than variables of interest, such as years since immigration, gender, level of education, and employment and immigration status. It is known that self-reported measures can elicit biased answers (Abou-Abbass et al., 2024), especially among illegal and undocumented status samples (Nam, 2023), which are the limitations acknowledged by both Abou-Abbass et al. (2024) and Nam (2023) had a lower quality rating. Additionally, many of the measures utilised for the religion variables and mental health outcomes have been developed in Western cultures, presenting a challenge to validity when used with non-Western samples.

Mediation and moderation analyses are ultimately correlational in nature. Consequently, it is difficult to ascertain with confidence the certainty of evidence in the relationship between variables, and no causality can be inferred. All studies but one included used cross-sectional designs so the influence of mediators and moderators are not conclusive. And for the only longitudinal study, the interaction term's influence on the other variables may have been more apparent over greater periods of time.

2.5.4. Recommendations for future research

Given the dynamic nature and interconnectedness of religion and acculturation processes (see *Fig 7*), more research is warranted to understand how these two variables interact with each other to impact on mental health and wellbeing. Longitudinal study designs are advisable to ensure causality between variables, as well as to ascertain changes over time, both at pre-migration and during the acculturative process post-migration. The addition of social determinants such as discrimination, employment or legal status as covariates should be considered in the study design.

The development of measures that encompass different facets of the constructs of religion and religious coping, acculturation and acculturative processes, and mental health and wellbeing is paramount, should be culturally sensitive, and should capture the impact of the host majority's attitudes towards the immigrant ethno-religious group.

The cultural distance (e.g., differing religious background between migrant and host culture) appears to be an overlooked variable which future researchers would benefit from taking into account and exploring in their study designs. The relationship between religion and wellbeing is complex in societies where religiosity represents an important source of stigma (e.g., Muslims in Western/secular countries).

Data Availability

The data that support the findings of this study are available from the corresponding author, AP, upon reasonable request.

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3. Service Improvement Project: Access to Statutory Mental Health Provision for Service Users Experiencing Homelessness: Third Sector Perspectives

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3.1. Abstract

Background: A significant proportion of the frontline care work for individuals experiencing homelessness is carried out by charitable organisations, who often face challenges in helping their service users accessing statutory services. Overall, people experiencing homelessness (PEH) report poorer diagnoses and greater barriers to necessary healthcare, often resulting in higher use of emergency services.

Aims: This study aimed to understand the perceived barriers to accessing statutory mental health services (i.e., the National Health Service [NHS]) by third sector organisations that provide support to PEH and to make recommendations to facilitate collaboration between NHS mental health services and these third sector organisations.

Method: A reflexive thematic analysis of semi-structured interviews with managers and team leaders in third sector organisations was conducted. A focus group was conducted with support workers in these organisations prior to the interviews to identify areas of interest and to inform the semi-structured interview schedule.

Results: Four themes were identified related to: (I) the experiences of third sector staff when supporting PEH; (II) NHS service provision for PEH; (III) how third sector staff perceive NHS mental health services; and (IV) how the third sector feels perceived by the NHS.

Conclusion: Findings highlight areas where barriers to accessing statutory mental health services are encountered and areas for improvement. Positive experiences of third sector staff where barriers to access to mental health care are reduced are also described. The findings form the basis for recommendations to the Oxfordshire Health and Homelessness Inclusion Team (OHHI).

Suggested running head: Barriers to accessing NHS services for service users experiencing homelessness.

Conflicts of interest: None.

Data availability statement: The data that support the findings of this study are available on request from the corresponding author, AP.

Financial support: This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Keywords: homelessness, barriers to mental health services, service provision, inter-agency work.

3.2. Introduction

People experiencing homelessness (PEH) are one of the groups most affected by severe and multiple disadvantages, including harmful drug or alcohol use, involvement with criminal justice procedures, poor mental health, and the experience of domestic violence and abuse (National Institute for Health and Care Excellence [NICE], 2022). In England, there has been an estimated 37% increase in rough sleeping since 2010 (Department of Communities and Local Government, 2014), and life expectancy in PEH is around 30 years lower than for the general population (Office for National Statistics, 2021). Additionally, poor health can be a cause of homelessness, and the associated trauma of homelessness can, in turn, lead to worsening mental health (Homeless Link, 2014). Overall, there is limited research available in mental healthcare for PEH, particularly around service provision and barriers to accessing services, which is the focus of this project.

The NHS Long Term Plan (2019) recognised the need for more action on prevention and health inequalities, specifically in providing outreach services to PEH. More recently, NICE guidelines were released on how to provide healthcare to PEH (NICE, 2022), recognising that a more targeted approach is needed to make services available, accessible and to the same standards as for the general population.

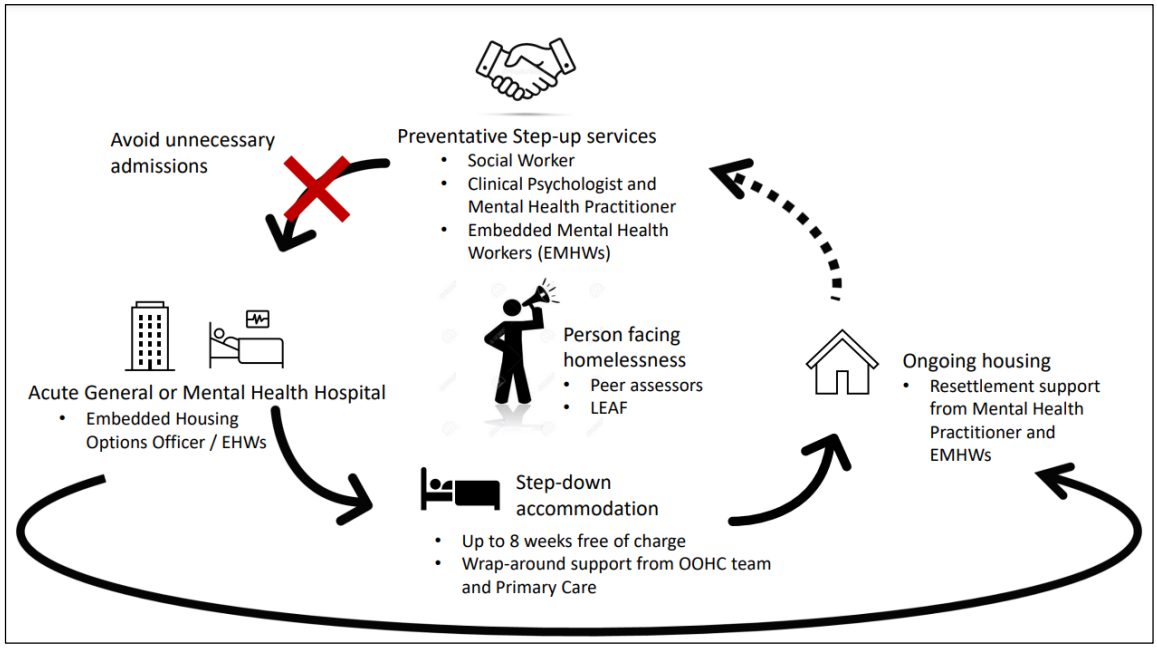
The most recent data available in the Findings from Homelessness Health Needs Audit (Homeless Link, 2014) shows that PEH report poorer diagnoses and greater barriers to healthcare needed. Those barriers can result from stigma and discrimination when accessing mainstream services, strict eligibility criteria (e.g., exclusion from services when people do not attend appointments), or financial barriers (e.g., the need to travel to physically attend appointments or

pay for prescriptions) (Crisis, 2021; Groundswell, 2018). This results in higher use of emergency services which is not only costly for the NHS, but also underscores the fact that PEH are not able to access healthcare before their health needs become emergencies.

3.2.1. The Oxfordshire Health & Homelessness Inclusion Team (OHHI)

In Oxfordshire, there have been joint efforts from statutory and non-statutory services[2] to respond to the mental health needs of PEH. The Oxfordshire Health & Homelessness Inclusion Team (OHHI) (see *Fig 1*) emerged as a result, and aims to provide flexible and tailored support to service users facing health needs to prevent unnecessary hospital admission (Lewer et al., 2021) and facilitate reintegration and safe discharges[3].

Figure 1 *Aims of the Oxfordshire Health & Homelessness Inclusion Team (OHHI).Used with permission.*



[2] Statutory services include Oxford Health NHS Foundation Trust and Oxfordshire County Council, and non-statutory services refers to the charitable sector or third sector organisations which are commissioned by the statutory agencies to provide housing and support to PEH.

[3] For more information about the OHHI model, refer to this Service Evaluation report from a similar pilot project in a different NHS Trust (Bristol North Somerset and South Gloustershire Clinical Commissioning Groups, 2018): https://www.pathway.org.uk/publication/service-evaluation-of-homeless-support-team-hst-pilot-in-bristol-royal-infirmary/

A significant proportion of the frontline care work is carried out by charitable organisations, who often face challenges in being the bridge between their service users and statutory services, such as physical and mental health care in the NHS, crisis support and social services. Research has highlighted that the third sector staff providing support report facing stigma and barriers to accessing statutory services for their service users (Armstrong et al., 2021).

3.2.2. Aims

This study aimed to understand the perceived barriers to accessing statutory mental health services (i.e., NHS) by third sector organisations in Oxfordshire which provide support to PEH, and to make recommendations to the OHHI based on the findings to facilitate collaboration between NHS mental health services and these third sector organisations in the mental health care service provision for the homeless community. To achieve this, a preliminary focus group and subsequent qualitative interviews were conducted with staff in third sector organisations, and a thematic analysis was used to extract the main themes and inform recommendations to the OHHI.

3.2.3. Theoretical framework

Past and ongoing experiences of multiple exclusion prevent PEH's engagement in mainstream services (Dorney-Smith et al., 2020; SAMHSA, 2014) and often raise safeguarding concerns (Preston-Shoot & Cooper, 2020). The theoretical framework underpinning the OHHI comes from a trauma-informed practice perspective, which recognises the complex needs of this group, and seeks to apply principles from Psychologically Informed Environments (PIE). These include developing a shared psychological understanding of the people receiving support, both in the physical environment and the social space, to facilitate engagement to the service. The emphasis is on moving away from crisis management to work in a more therapeutic and planned way (Homeless Link, 2017; Keats et al., 2012).

3.3. Methods

Ethical approval for the project was via the Oxford Clinical Psychology Doctorate course. The authors abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the BABCP and BPS whilst conducting this study.

The organisations working in close partnership with the OHHI were contacted and invited to participate in the research. These included: Homeless Oxfordshire, Connection Support and A2Dominion. They mostly provide housing support and are involved in the multi-agency social care of PEH – e.g., running the step-up and step-down projects commissioned by the NHS, or having clinicians from the OHHI embedded in their supported accommodations.

Given that qualitative research involves a degree of subjectivity in the interpretation of the data, it is important to note that the researcher (AP) conducting the data collection and analysis had been on placement for one year in the OHHI during her first year as a trainee clinical psychologist.

A focus group with six staff members from Homeless Oxfordshire and Connection Support was conducted to identify preliminary barriers to accessing statutory services for their service users, and to inform the semi-structured interview schedule. The focus group was semi-structured, with 8 guiding questions derived from the researcher's (AP) experience of working in the OHHI (*Appendix 6*) and was held in person in a local GP practice meeting room.

Subsequently, a total of nine semi-structured interviews with managers and team leaders of Homeless Oxfordshire, Connection Support and A2Dominion were conducted. Three of the interviews were held in person and the rest on Microsoft Teams and each lasted between 50 and

80 minutes. The interview schedule consisted of 10 guided questions based on the themes identified in the preliminary focus group (*Appendix 7*).

An individual with lived experience of homelessness offered four consultations throughout the research process, providing feedback and input on the study design, the focus group and interview schedules, the thematic analysis and overall report.

3.3.1. Participants

The focus group was conducted with six support workers, three males and three females. Three were staff members at Homeless Oxfordshire and three at Connection Support. Five of them were white British and one was black British. They ranged in time working for the organisations from two years to more than a decade. Two of them disclosed having lived experience of homelessness themselves prior to starting their job as support workers. Support workers are the staff members who have the most interactions with service users, helping them access healthcare. They all had worked alongside one or more clinicians from the OHHI in the last year, and were familiar with the team's remit.

The nine semi-structured interviews were conducted with managers and team leaders. Four worked with Homeless Oxfordshire, four with Connection Support and one with A2Dominion. Two of them were male and seven were female, and all of them were white British. Their position as managers and team leaders provided an understanding of the broader and more structural issues related to the topic of interest compared to other members of staff.

3.4. Results: Thematic analysis of the interviews

A reflexive thematic analysis was used to analyse the data obtained through the semi-structured interviews (see *Appendix* 8), using the qualitative approach as described by Braun and

Clarke (2021) wherein patterns are identified, analysed, reported and interpreted within the data through a process of coding, grouping the codes into themes, and defining and naming the themes, whilst acknowledging and reflecting on the researcher's own role and influence in the shaping of the analysis. This thematic analysis was inductive or data-driven – that is, no pre-existing coding frame was used. However, it was partially grounded and reflexive – that is, partially influenced by the main researcher's (AP) personal knowledge of the third sector organisations and the OHHI. The quality and robustness of the thematic analysis was assessed by following the guidance by Braun & Clarke (2019).

Four themes were identified, which related to: (I) the experiences of third sector staff when they support their service users experiencing homelessness to access statutory mental health services, and the barriers they encounter based on their presentations; (II) the statutory service provision for PEH; (III) how the third sector staff perceived the statutory mental health services delivered within the NHS as constituting a barrier to mental health services access; and (IV) how the third sector staff supporting PEH feel perceived by statutory services in their interactions with them (see *Appendices 8 and 9* for the thematic analysis process, quality assessment, and selected quotes).

(I) Chaotic and disengaged: *Our experience supporting our service users*

Participants described several aspects of the mental health presentations commonly found in PEH as a barrier to them accessing mental health services. The complexity of the mental health

problems they present might make them less prone to seek help and trust that statutory services could provide effective support [9.10, 7.10][4].

Some might fall under the radar and not get the help needed [1.2], and others are deemed as 'too complex' by the statutory services [5.1]. Drug and substance misuse and addiction [2.2, 5.2, 7.4, 9.1], a history of trauma [3.8, 7.2], dual diagnosis [1.6, 6.13, 7.4, 8.2], and a forensic history of antisocial behaviours [3.3] are some examples of factors and issues PEH present with which might pose barriers to accessing the mental health support needed.

> *"One of the negatives about it is I do find that our clients are quite often too complex, which I just I don't really know what to do with that then, because, yeah, you know a bit more complex needs. I understand it's based mostly on engagement. And you've got to be willing to engage for them to then carry on your referral" [5.1]*

Poorer mental health that goes unattended for these service users who often do not have a community of support around them [2.10] might also lead to behavioural issues or worsening symptoms that results in less engagement and more mistrust [6.12, 7.5].

> *"I think it's just like the lack of support potentially out there or like that they feel judged […] for having an addiction or for their current lifestyle. So, then they feel like they won't get the right support because they're very quickly told about their substance misuse rather than it being focused on their mental health." [7.5]*

[4] The thematic analysis was carried out using a coding system where the first number corresponds to the interview number and the second number to the page in the transcript where that theme is found. For example, [9.10] refers to page number 10 of interview number 9.

Alcohol and other substance misuse is also linked to more recurrent hospital admissions, leading to repeated trips to A&E and use of other emergency services [3.4], which contribute to a perception of interactions with health care systems as unpleasant. Participants also reported a high prevalence of forced admissions into psychiatric wards for their service users under the Mental Health Act (MHA, 2007), which could constitute some respite from life in the streets in some cases [2.11], but could prove very unsettling for some who might be admitted, stabilised and discharged straight away [7.3].

Additionally, the vulnerability of service users to exploitation [2.6, 8.2] and the instability that follows not having a fixed abode make it harder to track and monitor their changes in circumstances and offer adequate support [5.3]. The insecurity experienced at many levels leads to the use of survival strategies, such as living one day at a time with little regard for the longer term [1.10]. This often leads to service users being moved to different short-term accommodations in different areas, preventing continuity of healthcare [1.7].

Finally, internalised stigma was also reported as preventing people accessing the mental healthcare needed, as they expect to be rejected by the services, creating an ongoing cycle of marginalisation [3.13, 6.7, 7,5].

> *"People end up having internalized their sense of their low self-esteem and their sense of worth. And people then don't feel that they're entitled to the same kind of support as other people because of their lifestyle, because of their, you know, like you say, the marginalisation, the rejection from society, so I'm not sure services do enough to challenge that." [3.13]*

Hence, the third sector staff described their need to advocate for a service user group that would otherwise be unable to access and receive the healthcare needed.

In terms of exceptions highlighted by participants were difficulties in engagement were not present in their service users, they drew on examples where mental health professionals and services provided a 'known face in a known place', being consistent and persistent in a manner that facilitated engagement. Examples of OHHI clinicians being embedded in the community were given by several participants as conducive to PEH establishing trust and a springboard to getting them engaged with mental health services more easily [2.5].

(II) From Pillar to Post: *NHS service provision*

The statutory mental health services available were reported as unsuitable and unable to respond to the needs of PEH based on the existing mental health service provision, requiring lots of effort from third sector organisations to act as a bridge between the two.

Firstly, the biggest barrier reported was at the level of primary care, particularly with regards to registering in and accessing GP surgeries and getting appointments in a timely manner even after an appointment is missed [9.3]. With the exception of one or two GP practices in Oxfordshire who proactively engage with and provide care for individuals experiencing homelessness, GP surgeries were described as being too stretched to respond flexibly to this patient group – e.g., refusing new registrations without addresses [6.2, 6.5], providing phone appointments only to this patient group that often do not have phones [1.4], and being unable to spend time building trust with these patients who would naturally be harder to engage with [6.12]. They act as the gatekeepers that both facilitate or prevent access to further mental health services [5.5].

Secondly, participants expressed frustration at being pushed from pillar to post when it comes to assessing and responding to the mental health needs of their service users experiencing homelessness [2.8].

> *"Sometimes it's all a bit hazy: who we should phone for this and who we should phone for that. And then when you do phone you're passed from pillar to post sometimes, and don't ever actually get any answers." [2.8]*

They reported being stuck between primary and secondary care, for instance, when a GP requests specialist mental health assessments, but these happen after the situation has deteriorated [2.4], or specialist services having too high a threshold to be able to respond to the complexity of the needs presented [6.3] and sending people back to their GPs. When it comes to psychological support in the form of talking therapies, individuals experiencing homelessness are often directed to talking therapies (IAPT - Increasing Access to Psychological Therapies) first, then stepped up to Adult Mental Health Teams (AMHT) and Complex Needs teams, for which the waiting list is too long to respond to the immediate needs of individuals [1.5, 3.5] and whose criteria for help provision they often do not even meet [3.5, 9.4].

Except for the OHHI, the mental health services offered in the NHS were described as not tailored to the needs of this patient group. Long waiting times to be assessed or even treated for a mental health issue was reported to be a barrier too, especially for a patient group which has ever-changing circumstances [5.3, 5.7, 6.3, 8.7].

> *"I say quite a few times to people when they send me their assessments and things and I say, but that's that was three months ago. And so much can change in three months and actually if we now have to spend*

another four weeks getting a GP appointment so that we can try and get, you know, that it, yeah, I just think it could be more direct." [5.7]

What poses a challenge is that most mental health services are not able to respond to the level of risk that individuals experiencing homelessness present [7.11], which results with short admissions to A&E – where they deal with the physical consequences (e.g., falls or concussions when under the influence of substances), rather than the ongoing mental health issues – and to psychiatric wards under the Mental Health Act (MHA, 2007), to stabilise the individuals without offering long term support and solutions. Speedy discharges without ongoing support, or support ending unexpectedly cause individuals to be bounced back and forth within the referral system and the care pathways [2.4].

Some positives were highlighted by participants with regards to the work the OHHI is carrying out, describing the emergence of the team as an improvement in reducing barriers to accessing appropriate mental health support for PEH. Individual NHS professionals were commended as 'spokes in the wheel of a system' when demonstrating care and understanding of the unique barriers that PEH face, and providing individualised care [2.8, 3.6, 7.6, 9.7].

***(III) Rigid and Removed**: Our perceptions of the NHS*

Whereas the previous theme highlights the gaps in NHS service provision, this theme describes the characteristics of statutory services which constitute a barrier for PEH to have their mental health needs met. The NHS was described by participants as too rigid in its care pathways, [3.6] not offering enough flexibility to a patient group that has to overcome many barriers before even engaging with the help and accepting to see a healthcare professional [9.6, 7.4].

> *"So when you're talking about people's engagement with services: that's where I feel the rigidity is. Sometimes it's, you know, we're going to offer you A, B and C, if you don't want any of those, then you can go away and then we'll record that we've offered you A, B and C but and that you didn't accept it. […] But if you're looking at our clients, they're not going to be interested in meeting that criteria or that criteria." [3.6]*

The NHS might sometimes wait until the point of crisis before responding and offering support [6.5], often providing little follow-up [2.4] and taking individuals off the waiting list or closing their referrals if they do not engage with or show up to appointments or do not respond immediately [7.4, 1.4]. This causes the third sector to take on the main role of caregiving for their service users who otherwise have little to no support elsewhere, acting almost like a "next of kin" [6.10].

Some of the NHS's rigidity described by participants related to the hierarchical structure of the services and roles, which makes it a complex healthcare system difficult to navigate [3.14], and its operational isolation from the rest of the agencies involved in patients' care and recovery [3.12]. They also reported noticing the NHS operating within a medical model of health rather than a social model of health, therefore locating the problem within the individual rather than looking at the systemic factors that could be maintaining the problems [3.7] and failing to take a psychologically informed perspective [1.9] – instead solely emphasising medication [3.6].

Statutory services were also perceived by third sector staff as being removed or aloof – that is, as an institution that does not prioritise getting to know other agencies and organisations which interact with and support their patients. It was expressed as showing a lack of understanding of the conditions they discharge patients into post-hospitalisation and into community care. For

instance, some third sector organisations working with the homeless community provide short-term supported accommodation to prevent individuals being discharged from hospital onto the street, and they expressed frustration at the lack of joint working which happens with statutory services in preparing for the transitions [2.9]. NHS mental health professionals do not tend to attend multi-agency meetings for complex cases as often as the other professionals involved, making it difficult to work collaboratively.

Additionally, participants reported a lack of communication between statutory and non-statutory services with regards to which mental health services are available to the community and the referral mechanisms [1.13].

Crisis teams were described as responsive but unable to capture the complexity of the history of the PEH in their procedures. Particularly, participants highlighted a lack of acknowledgement of the trauma history and how it impacts an individual's risk behaviour [7.3].

The NHS was perceived as an institution which often provides diagnoses without then providing a follow-up support, or any guidance on what to do with it [2.4].

> *"So if you look through a lot of our clients' notes and the referrals, […] a lot of them have got these diagnoses but who's following up? Who's checking that they're doing OK? If it's not with Luther St[5], who is the psychiatrist that will come?" [2.4]*

Similarly, the third sector staff interviewed expressed frustration at the complexity of the NHS systems and services available [3.8], and its long processes which do not respond to the fast-

[5] Luther Street Medical Centre is a GP surgery located in the centre of Oxford which provides primary health care to PEH.

paced and ever-changing circumstances of PEH. An example of this is the clustering system, by which individuals are offered NHS services based on their mental health needs [9.5], which was reported as being confusing. The 'NHS jargon' was also highlighted by the participants interviewed: both the barrier presented by the requirement for the individual accessing care to say the right thing to get the right care, [1.4, 8.3], and the provision of discharge summaries that are difficult to understand for the lay person [4.13].

Lastly, the reluctance to share information with external organisations supporting patients experiencing homelessness was also reported as one of the issues that third sector staff encounter when trying to work jointly with statutory mental health services. The desire to maintain the confidentiality of the patient often means that third sector organisations providing housing and ongoing support after individuals are discharged from hospital or who are being seen by their GPs on a regular basis do not possess all the information which would be useful for them to know and to be kept up to date with in order to carry out their role effectively [1.9, 7.8, 7.9].

> *"I think when where we're supporting residents here, I think it's always good for like professionals to be kept up to date and as long as there's a consent share in place and stuff, I think information should be like communicated freely between GP, professional mental health and such, and the support area." [7.8]*

On a positive note, participants commended the NHS demonstrating professionalism and having services that are well organised and standardised compared to the third sector, as setting examples to follow [3.7]. Instances where 'reasonable adjustments' had been provided in the form of appointment flexibility for PEH were also given by participants (e.g., Luther Street Medical

Centre having a drop-in approach to GP appointments [5.6], or assertive outreach where OHHI clinicians join outreach rounds with third sector staff).

***(IV) Inexpert yet on the hook**: NHS Perceptions of us*

Participants reported misunderstandings in how they felt perceived by statutory services as the third sector working alongside service users who experience homelessness. Part of their role is to act as mediators and facilitate access to and liaison with appropriate mental health services. However, participants interviewed described difficulties in providing that support due to the response they get from the NHS in particular, either because of over-expectations or under-expectations of them.

With regards to over-expectations, mental health professionals in the NHS sometimes expect third sector workers to provide mental and/or physical health support despite it not being within their remit [6.11, 8.1].

> *"Our intervention is limited because first of all we don't do personal care and so at the moment we've got quite a few people here with severe mental health difficulties and a couple of them have got care packages, are they working? No, not really." [8.1]*

The three organisations from which participants were recruited for this project mainly provide housing support; most of their staff are not trained to provide healthcare and feel out of their depth when the NHS expects them, for example, to be able to administer medication or dress wounds [8.15]. They also reported being expected to share information about their service users whilst not being given much information in return [7.2], thus making them feel perceived as picky and demanding [4.12].

"When the referral comes through, if there is any information that I'm missing, or the staff have questions and then they do go back to the referrer […] may feel that that we're being too picky or we're asking too many questions and they can come back with: I haven't got time for this." [4.12]

With regards to under-expectations, the staff interviewed viewed their role as being mediators for PEH who try to access statutory services. However, they expressed not being taken seriously or not believed about the levels of risk reported when reaching out for support until situations escalate (e.g., needing to section individuals under the MHA) [3.12, 5.14, 8.4, 8.8, 9.10], and that also manifesting on how some of the expertise that support workers have after many years in the sector is not valued nor acknowledged [8.3]. They are not seen as equals compared to other statutory services such as the City or County Councils [6.16], often do not get invited nor have access to multi-agency meetings [3.9, 3.10, 8.4], or they organise multi-agency meetings to which NHS clinicians do not turn up [1.11].

However, instances of multi-agency work around the individual and good working relationships between clinical staff and third sector staff were reported as good examples of effective collaborative work. This was reported to be more prevalent where NHS staff, from the OHHI, shared work locations with third sector staff [2.11, 3.4, 6.9].

3.5. Discussion

The four themes identified are closely related and often overlap, becoming vicious cycles which increase the presence and impact of those barriers. For instance, an individual experiencing mental health difficulties without the adequate support around them might end up homeless. Often,

at the point of mental breakdown, individuals count on their family members to take them to appointments and function as health advocates. For those experiencing homelessness, these links are often severed, and the current mental health services are not adapted to be navigated on one's own. Too many barriers get in the way: from getting help in a timely manner (long waiting times), to knowing where to go (GPs as gatekeepers but being unable to respond to specific individual needs due to being overwhelmed), to continuity of care beyond the crisis point (inadequate follow-up).

To our knowledge, this project is the first to explore the barriers to accessing mental health services by PEH from a third sector perspective. Overall, the findings suggest that third sector staff supporting PEH encounter various barriers to accessing statutory mental health services in the NHS. These relate to the presentation of PEH, the NHS service provision, how mental health services are delivered within the NHS and how third sector staff feel their role is perceived by NHS.

Positive experiences of third sector staff where barriers to access to mental health care are reduced were described by participants). These also form the basis for the service recommendations suggested to the OHHI as a result of the current research. In the same way that third sector organisations described themselves as being advocates, connectors, caregivers and mediators between their service users and statutory services, we suggest that the OHHI should also adopt those roles in relation to being advocates, connectors/catalysts, caregivers and mediators between third sector organisations and the rest of the NHS services they represent (see *Table 1*).

Table 3 *Summary of results and recommendations*

Theme	**The OHHI: What's worked well so far**	**NHS-Wide Shortfalls & Ongoing Barriers**	**Recommendation for the OHHI**	**NHS Values at play**
I. Chaotic and disengaged: third sector's experience supporting their service users	A known face in a known place: when services are consistent and persistent to facilitate engagement, for example, mental health workers embedded in the community [2.5].	- Complexity of mental health presentations (e.g. drug abuse, dual diagnosis). - Continuity of healthcare made difficult due to ever-changing circumstances. - Internalised stigma.	***Advocates*** - Provide a psychologically- and trauma-informed lens to the rest of professionals, tailored to the particular needs and complexities of this service user group. - Advocate for a bespoke approach to care for PEH in other NHS services. - If providing mental health support to PEH, endeavour for it to be consistent, persistent and embedded in the community.	Compassion
II. From pillar to post: NHS Service Provision	A spoke in the wheel of a system: when individual NHS professionals have demonstrated care and understanding of the unique barriers that PEH face [2.8, 3.6, 7.6, 9.7]. The OHHI described as an improvement in reducing barriers to accessing the right mental health support.	- GP surgeries as gatekeepers of further care - Being bounced between levels of care (e.g. GP, talking therapies, AMHT, complex needs, etc.) because of not meeting criteria. - Lack of trauma-informed care that acknowledges the risk in this patient group.	***Connectors & catalysts*** - The OHHI should continue acting as a bridge between Third Sector organisations and wider NHS services, noting gaps in the service provision of mental health care, and voicing them to the wider organisation. - Clinicians should be made aware of the statutory mental health services available widely and assist third sector organisations in advising a referral. - The OHHI should continue working in partnership with primary care services such as GP Practices (as it has been doing with Luther Street Medical Centre) and develop further partnerships with other GP practices in Oxfordshire (e.g. Cowley, Banbury, Bicester…). - Networking within the NHS is advised in order to raise awareness of the existence of the OHHI.	Everyone counts
III. Rigid and removed: Perceptions of the NHS	The NHS was commended for its professionalism and sometimes having services better organised and standardised compared to the third sector, not as	- Rigid care pathways and lack of follow-up. - Complex system making it difficult to navigate services.	***Caregivers*** - Continue providing assertive outreach (e.g. joining in outreach rounds with third sector staff) to help with signposting based on individuals' health needs, and to continue requesting for wider medical and nursing staff to support in the process.	Respect and dignity Improving lives

	dependent on external funding [3.7]. Some examples of 'reasonable adjustments' provided in the form of appointment flexibility for PEH – e.g. Luther Street Medical Centre [5.6] or assertive outreach were given.	- Use of a medical model of healthcare, which locates the problem on the individual overlooking systemic issues. - Separated from other organisations and providing poor communication.	- Consider having clinical staff more closely involved in and support the discharge process from inpatient services back into the community to ensure a more accurate assessment of the ongoing psychological needs of individuals (e.g. attending psychiatry ward rounds of PEH). - The OHHI should also consider providing staff support to third sector organisation after critical incidents. - Clinicians should also identify areas of need for further mental health capacitation within the third sector organisations they work with. This could inform the provision of relevant Continued Professional Development (CPD) for third sector staff. - Continue promoting the role of the OHHI to other NHS services.	
IV. Inexpert yet on the hook: How the third sector feels perceived by NHS	Working collaboratively: instances of multi-agency work around the individual and good working relationships between clinical staff and third sector staff, especially when sharing locations – e.g. housing officers embedded in hospital wards [2.11, 3.4, 6.9] were reported.	- Over-expectations of the third sector role: providing levels of care they are not trained for. - Under-expectations of the third sector role: feeling their expertise is disregarded by NHS or seen as inferior to other statutory agencies.	***Mediators*** - The OHHI should strive to work in close collaboration with third sector organisations through regular visits to their sites and being available for one-off consultations with staff. - Clinicians in the OHHI should take the lead in calling multi-agency meetings when required. It might make it more likely for other NHS clinicians involved to attend and will facilitate third sector staff's voices to be heard. Chairing multi-agency meetings by bringing the PEH in can act as a role-model to other professionals. - Although often convenient, online meetings prevent informal sharing of information and co-workers getting to know each other. The team should strive to create spaces for interaction between agencies as well as being present in third sector events.	Working together for patients Commitment to quality of care

Findings were fed back to the OHHI clinical staff team at one of their weekly team meetings and to the team manager, who provided up to date information on whether the recommendations were relevant to the current team processes and plans for future development. They agreed to continue working on the areas of improvement and implementing the recommendations identified. A lay summary report of the results was produced to share with the OHHI and the third sector organisations involved (see *Appendix 5*).

3.5.1. Limitations

The fact that the researcher (AP) had been on placement for one year in the OHHI as a trainee clinical psychologist prior to this Service Improvement Project poses some challenges to the data collection and analysis of this study. An internal investigator was beneficial to some extent as it provided a more nuanced understanding of the day-to-day interactions between the third sector and NHS services, but it also adds a layer of bias to the results when identifying themes for the semi-structured interview schedule and when analysing the data.

Generalisation of results beyond the Oxfordshire area is also a limitation, due to the specific context in which data was collected. Partnerships and collaboration between statutory and non-statutory services differ from one region to the other, but the current study proposes the existence of a service such as the OHHI as an asset in responding to the specific needs of a marginalised group, such as PEH, and provides an insight into how third sector organisations and NHS services could work jointly. Additionally, participants were recruited from organisations mainly providing housing support to PEH, as they interact the most with statutory services, but there are other organisations in Oxfordshire which provide social support and advice which could have provided a richer perspective on the topic researched.

3.5.2. Conclusion

The current project stemmed from a specific need of the recently-formed OHHI to further define its remit and role of facilitating the interplay between statutory and non-statutory services in caring for PEH. Accordingly, this project is in itself one of the improvements that the OHHI is seeking to implement, and provides further guidance on addressing other ongoing barriers to accessing statutory mental health care, as well as evidence for the continued backing and investment in this model of care.

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4. Theoretically-Driven Research Project: Negative appraisals and cognitive processing of traumatic events in migrant populations having undergone acculturation

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given its specific subject area that includes the study of theory-driven or experimentally-derived predictors, moderators and mediators in psychopathology, such as PTSD. The paper has been formatted according to journal guidelines (*Appendix 14*).

4.1. Abstract

Background: Acculturation is a dynamic stress process for those undergoing migration. To date, the association between acculturation and the processing of traumatic events has not been empirically explored.

Methods: The current study explores the relationship between acculturation levels, the cognitive processing of traumatic events and mental health outcomes. The sample consisted of 161 migrants living in the UK. A *k-means* cluster analysis was used to classify participants based on their level of acculturation. Analyses of covariance (ANCOVAs) and regression analyses were used with SPSS version 29.0 to analyse cross-sectional data.

Results: Three clusters were identified from the data: higher and easier acculturation (HEA); higher and harder acculturation (HHA); and lower acculturation (LA). Gender and trauma exposure were identified as significant covariates. There were significant effects of acculturation on post-traumatic personal and public negative appraisal measures, and on post-traumatic stress disorder (PTSD) and depression symptoms. Individuals in the LA cluster presented significantly higher scores on these measures compared to the other two clusters. An exploratory mediation analysis revealed that PTSD, depression and anxiety symptoms can be predicted by acculturation through the mediating role of post-traumatic negative appraisals, with significant differences between HEA cluster and LA cluster, and between HHA cluster and LA cluster.

Conclusions: Overall, these findings shed light on the role of acculturation on the processing of traumatic events and subsequent mental health symptoms, both at the intrapersonal and the interpersonal level. That individuals with lower acculturation levels

display clinical levels of mental health symptoms and more negative appraisals warrants the exploration of acculturative process in therapy.

Keywords: acculturation, negative appraisals, cognitive processing of trauma, PTSD, cultural distance.

4.2. Introduction

4.2.1. Acculturation

Acculturation has been described as a process which individuals navigating cross-cultural transitions undergo, where behavioural shifts take place at an individual and psychological level (Berry, 2017). Behaviours manifested have been described as acculturative stress, which can result in lowered mental health, feelings of marginality and alienation, heightened psychosomatic symptoms and identity confusion (Berry, 1990).

According to Berry's model of acculturation (1980, 1997) four acculturation strategies can be adopted depending on (a) the approach to the home culture or identity and (b) whether the individual forms a positive relationship toward the host society. These are: integration, assimilation, separation and marginalisation (Berry, 1980; *Fig 1*).

Figure 1 *Acculturation strategies or orientations. Adapted from Berry (1980).*

		Values and maintains home culture (Home orientation)	
		YES	NO
Values and maintains host culture (Host orientation)	YES	Integration	Assimilation
	NO	Separation	Marginalisation

Research shows that maintaining positive relations with both the home and the host culture (i.e., integration) is related to psychological and sociocultural adaptation (Nguyen & Benet-Martínez, 2013), compared to other acculturation orientations. However, a

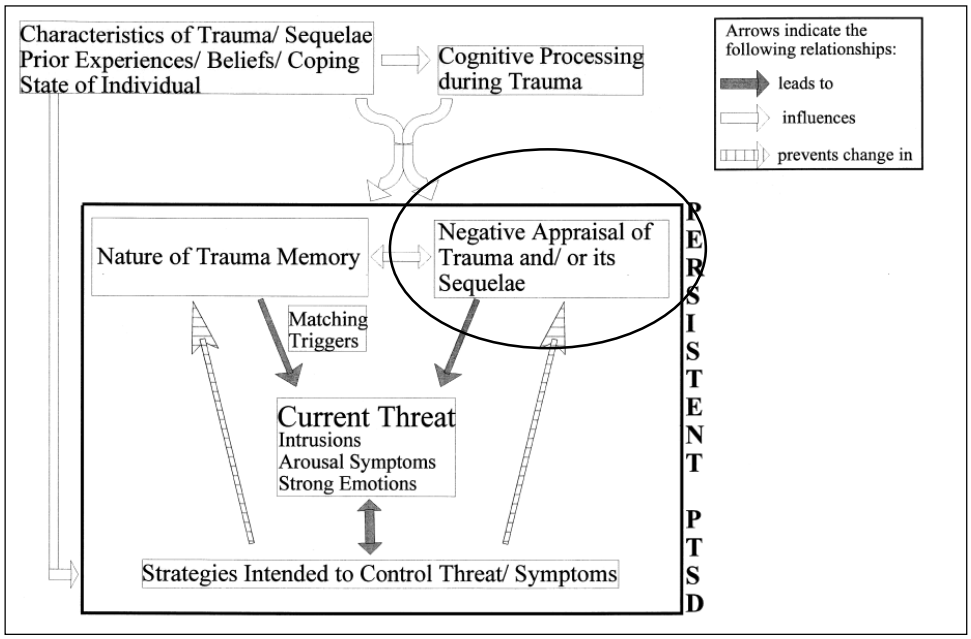
single acculturation model does not suit all acculturating groups (Geeraert & Demoulin, 2013).

Schmitz & Schmitz (2022) posit that acculturation should be assessed as attitudes, preferences, or practices, and not merely as either orientation to home or host culture, or only through proxy measures such as mental health outcomes or professional success. More recently developed measures of acculturation include sociocultural and psychological adaptation, as well as perceived cultural distance (Demes & Geeraert, 2014; Galchenko & van de Vijver, 2007; Malay et al., 2024).

4.2.2. Post-traumatic negative appraisals

The psychological theory underpinning the current study is the cognitive model of post-traumatic stress disorder (PTSD) as proposed by Ehlers & Clark (2000). This posits that it is the presence of negative appraisals of the traumatic event and/or its sequelae that have an effect on creating a sense of serious current threat (*Fig 2*).

Figure 2 *Cognitive model of PTSD, adapted from Ehlers & Clark (2000).*



Studies have found that negative appraisals about the self, others and the world as outlined in the cognitive model of PSTD (Ehlers & Clark, 2000) predict the development and maintenance of PTSD symptoms (Brown et al., 2019; Kleim et al., 2007) and constitute an important target for treatment (Resick, 2001). Additionally, elements of the cognitive model may vary by trauma type (Beierl et al., 2020) and cultural background (Engelbrecht & Jobson, 2016), particularly in relation to the type of negative appraisals experienced.

4.2.3. Cultural differences in relation to PTSD

There is increasing recognition of the influence of culture on the onset and maintenance of PTSD. Prior beliefs and experiences can exert an influence in how the traumatic events are perceived and appraised (Ehlers & Clark, 2000) and there is substantial evidence indicating that post-traumatic appraisals differ across cultures (Engelbrecht, 2013). This becomes apparent when distinguishing between individualistic and collectivistic cultures (Markus & Kitayama, 1991).

Studies examining the neural substrates have found that cultural variations in self-representation (e.g. individualistic vs collectivist) modulate many of the same neural and psychological processes disrupted by trauma exposure and PTSD. This includes processes linked to fear perception and regulation mechanisms, attentional biases to threat, emotional and autobiographical memory systems and self-referential processing (Liddell & Jobson, 2016).

4.2.4. Acculturation and the cognitive model of PTSD

The literature available points to PTSD as an intrinsic factor negatively impacting acculturation levels, and that higher degrees of acculturation are associated with lower

PTSD symptoms (Choy et al., 2020). However, it is difficult to determine the directionality of the relationship. On the one hand, it is possible that someone who suffers from PTSD symptoms would find the acculturative process more difficult. On the other hand, one could argue that someone who displays a higher degree of acculturation would cope better with the impacts of traumatic events and display lower levels of PTSD symptoms and common mental health disorders.

Although there have been efforts to investigate the influence of culture on post-trauma appraisals and subsequent psychological adjustment (see Engelbrecht, 2013), acculturation processes have not yet been explored from a cognitive theory perspective in the literature.

4.2.5. Rationale and clinical relevance

In summary, the literature suggests that individuals who are highly engaged in both their home and the host culture demonstrate positive adjustment outcomes in various life domains, including psychological adjustment (Schmitz & Schmitz, 2022). The evidence to date suggests that higher degrees of acculturation are associated with lower symptoms of PTSD (Choy et al., 2020).

Equally, the literature also shows that PTSD treatments are associated with significant improvements in negative post-trauma cognitions that often precede and predict reductions in PTSD symptoms (Brown et al., 2019). Therefore, understanding the role of acculturation in post-trauma cognitions could help tailor PTSD treatments in migrant populations.

The aim of the present study is:

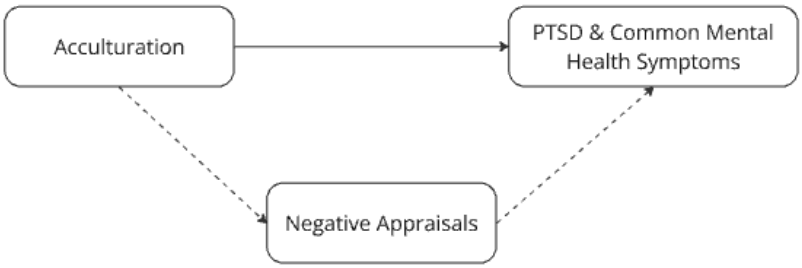
(I) To investigate whether acculturation levels are associated with cognitive processing of traumatic events and mental health outcomes:

- *Hypothesis 1:* Higher acculturation will be associated with fewer negative cognitions about oneself (including private, public and communal aspects of self), others and the world compared to lower acculturation.
- *Hypothesis 2:* Higher acculturation levels will also be associated with better mental health outcomes – depression, anxiety and post-traumatic stress than lower levels of acculturation.

(II) To tentatively explore whether PTSD and common mental health symptoms can be predicted by acculturation through the mediating role of negative cognitive appraisals:

- *Hypothesis 3*: Negative appraisals will mediate the relationship between acculturation and PTSD and common mental health symptoms (*Fig 3*).

Figure 3 *Mediation relationship hypothesised between acculturation, negative appraisals of traumatic events and PTSD and common mental health symptoms*



4.3. Method

4.3.1. Procedure

The study received ethical approval from the University of Oxford Medical Science Ethics Board (reference R90680/RE001, *Appendix 10*). Written or oral consent was

obtained from participants. There was no financial remuneration for participating and data were collected between 4th March and 29th November 2024.

A diverse sample of migrants to the UK was obtained using a web-based survey (*Qualtrics* software), with the option of completing the survey on paper format, on the phone or video call with the investigator. By using a variety of methods, we hoped to increase the chance of gaining a geographically diverse representation of migrants whilst allowing for those that have less access to digital platforms or limited literacy skills to be able to participate.

Social media[6] advertising was used, and a total of 66 charities and community groups related to migration or specific ethnic groups were approached by email, phone or in person to recruit participants among their service users and community members. The research study was also advertised in online platforms[7]. Additionally, snowball sampling was utilised with the study being shared with the investigator's personal contacts, who shared it in turn with their networks.

Responses to the questionnaire measures related to acculturation were used to divide participants into groups based on the level of acculturation.

4.3.2. Participants

Inclusion criteria for this study were that participants were born outside of the United Kingdom (UK) and migrated to the UK as adults (18+ years old), had spent a minimum of four years in the UK, and were able to speak English. In the absence of suitable comparison studies, a priori power analysis based on similar studies available in

[6] Social media platforms: Facebook, Instagram, X and Reddit.
[7] Online platforms: Daily Info, the Department website at the University of Oxford, and MQ Mental Health Research.

the literature estimated a sample size of N = 159 (a minimum of n = 53 per group) for an 80% chance of detecting a medium effect size (f =.25) based on Cohen's tables for between groups conditions (Cohen, 1988).

A total of N = 313 individuals took part in the research project, but only N = 161 were included in the final dataset. Incomplete questionnaires were not included (n = 144) and 8 individuals did not meet inclusion criteria. Additionally, 172 people clicked on the survey link or scanned the QR code but did not proceed with completing the questionnaire. Of the N = 161 included, 95 completed the questionnaire online after clicking on the link (through social media or mailing lists, as well as snowball sampling), 28 were recruited on social media and completed the questionnaire with the investigator on a video or phone call, 21 completed a paper survey and 17 scanned the QR code from posters and flyers distributed.

4.3.3. Measures

See *Supplemental Materials* (*Appendices 11 & 12*) for more detailed description and questionnaire items.

Demographic Characteristics

Participants were asked to self-report their age, sex, ethnicity, country of origin, educational attainment, migration status, age at migration to the UK, languages spoken and level of fluency, and whether they had lived in other countries for longer than six months.

Acculturation

Degree of acculturation was assessed using the acculturation scales by Demes and Geeraert (2014), 4 Likert-type subscales measuring: acculturation orientation (*Brief Acculturation Orientation Scale, BAOS*), psychological adaptation (*Brief Psychological*

Adaptation Scale, BPAS), sociocultural adaptation (*Brief Sociocultural Adaptation Scale, BSAS*) and perceived cultural distance (*Brief Perceived Cultural Distance Scale, BPCDS*). The literature shows good internal consistency and reliability in two migrant samples to the UK (Demes & Geeraert, 2014), and, in the current sample, it showed acceptable internal reliability (Cronbach's alpha 0.784).

Negative appraisals

Post-traumatic negative appraisals were measured using two scales. Firstly, the *Post Traumatic Cognitions Inventory (PTCI;* Foa et al., 1999), with three subscales: negative cognitions about self; negative cognitions about world; and self-blame. It has shown excellent internal consistency and good test-retest reliability in the literature (Foa et al., 1999), and excellent internal reliability in this study (Cronbach's alpha 0.937).

The second was the *Public and Communal Self-Appraisal Measure (PCSAM;* Engelbrecht & Jobson, 2014), assessing public and communal aspects of trauma-associated appraisals, and is divided into three subscales: challenges to beliefs & belonging; communal self or communal self-appraisals; and public self-appraisals. It has shown good internal consistency, test-retest reliability, convergent and discriminative validities in previous studies (Engelbrecht & Jobson, 2014), and excellent internal reliability in this study (Cronbach's alpha 0.945).

Mental Health Outcomes

PTSD symptom severity was assessed with the *PTSD Checklist for DSM-5* (*PCL-5*; Blevins et al., 2015), depression symptoms were assessed with the *Patient Health Questionnaire 8* (*PHQ-8*; Kroenke et al., 2001) and general anxiety symptoms were measured with the *General Anxiety Disorder 7 (GAD-7;* Spitzer et al., 2006).

The literature shows that the three measures exhibit strong psychometric properties (Blevins et al., 2015; Kroenke et al., 2001, 2007, 2009). In this study, the PCL-5 showed excellent internal reliability (Cronbach's alpha 0.950), and PHQ-8 and GAD-7 showed good internal reliability (Cronbach's alpha 0.878 & 0.893).

Control variables

Two control variables were included: gender[8] and degree of exposure to trauma events (*Life Events Checklist for DSM-5* (*LEC-5*; Gray et al., 2004). Weis et al's (2022) suggested scoring method for the LEC-5 was used.

4.3.4. Data Analysis

All analyses were conducted in SPSS version 29.0. Descriptive statistics were used to summarise sample characteristics. Normality of data was assessed visually with histograms and Shapiro Wilk tests. A cluster analysis with a *k-means* was used to determine groups based on their level of acculturation. The cluster analysis organised items into groups, or clusters, on the basis of how closely associated they are. Based on the available literature, we expected that either a 2, 3 or 4 cluster solution would be stable and consistent with acculturation theories. Upon determining the cluster solution, subsequent group comparison analyses were carried out. Differences in hypothesised covariates by cluster were assessed in an analysis of variance (ANOVA) to determine whether to control for these in subsequent analyses.

Group comparisons were calculated with analyses of covariance (ANCOVA) to test Hypotheses 1 and 2 for each scale and subscale of the dependent (*Table 1*). A secondary exploratory regression analysis was then carried out to test Hypothesis 3 using Hayes

[8] Gender at birth (male/female).

PROCESS macro v4.2 in SPSS (Hayes, 2013). Six separate models were conducted whereby the mediation was tested using the acculturation clusters as the independent variable, the total scores of the PTCI and the PCSAM as the mediator variables, and PTSD, depression and anxiety symptoms as the dependent variables (*Table 1*). Gender and trauma exposure were controlled for as they appeared to be significant covariates. Total scores for PTSD and depression were calculated after removing five and one items[9] respectively which linked to negative appraisals to avoid redundancy between mediator and outcome. The same mediation models were tested for pairwise comparisons between clusters to determine where the differences between clusters lie.

Table 1 *Group comparisons and exploratory mediation models conducted*

Group comparisons	**Exploratory mediation models**
Acculturation – Personal negative appraisals (total and three subscales)	Acculturation → Personal negative appraisals → PTSD
Acculturation – Public & communal appraisals (total and three subscales)	Acculturation → Public & communal appraisals → PTSD
Acculturation – PTSD symptoms	Acculturation → Personal negative appraisals → Depression
Acculturation – Depression symptoms	Acculturation → Public & communal appraisals → Depression
Acculturation – Anxiety symptoms	Acculturation → Personal negative appraisals → Anxiety
	Acculturation → Public & communal appraisals → Anxiety

Alongside p-values, confidence intervals of parameter estimates were reviewed to assess statistical significance. Where a confidence interval (CI) included zero, the effect was considered non-significant. Percent mediation of outcome by the process variable was calculated as an indicator of the strength of any indirect effects following the procedures described by Fairchild & McDaniel (2017).

[9] Items 9, 10, 11, 13 and 14 on the PCL-5 and item 6 on the PHQ-8 were removed.

4.4. Results

4.4.1. Sample Characteristics

The final sample comprised 161 participants, aged from 22 to 73 years (M = 40.63, SD = 11.54). The length of stay in the UK ranged from 4 to 58 years (M = 14.02, SD = 9.62). 47.2% of the sample identified as White, 19.9% as Asian, and 18% as Black. More than half of the participants' highest level of education was post-graduate (54%), followed by undergraduate level (32.3%). 44.7% had acquired UK citizenship and 36.6% had permanent residence after having applied for indefinite leave to remain. 40.4% of the sample reported having lived in a country other than their own and the UK for a minimum of 6 months. Participants were from 62 different countries, with Nigeria (n=15), Italy (n=9), Hong Kong (n=7), Pakistan (n=6) and Spain (n=6) being the most often represented.

4.4.2. Preliminary analyses

For the 161 participants included in the study, there was no missing data. Averaged scales were constructed for all measures. The internal consistencies for the measures were good to excellent as reported in the measures section above (*Appendix 11*).

The assumption of normality was supported for all relevant variables through histogram inspection and Shapiro-Wilk test ($p < .001$) except for the perceived cultural distance subscale (RevBPCDS). No transformation was applied since that subscale does not require to be parametric for the *K-means* analysis where it was used. Positive skewness was observed in the negative appraisals (PTCI & PCSAM) and the mental health symptom variables (PTSD, Depression and Anxiety) as expected due to the sample being non-clinical and most individuals reporting lower levels of symptoms than in clinical samples.

Table 2 shows the zero-order correlation analyses between all variables measured. Expected statistically significant positive bivariate correlations were found between time in the UK and psychological adaptation ($r(159) = .232$, $p = .003$), between immigration status and depression ($r(159) = -.204$, $p = .009$) and anxiety ($r(159) = -.290$, $p < .001$) symptoms; and between ethnicity and perceived cultural distance ($r(159) = .270$, $p < .001$). There were strong positive correlations between subscales of the acculturation measure (namely psychological and sociocultural adaptation) and negative appraisals as well as between subscales of the acculturation measure (also psychological and sociocultural adaptation) and mental health symptoms (see items 13-17 in *Table 2*).

Within the acculturation subscales, correlations were found, as anticipated, between subscales: orientation towards host country significantly correlated with psychological and sociocultural adaptations; psychological and sociocultural adaptation were strongly correlated, and there was a moderately significant correlation between sociocultural adaptation and perceived cultural distance.

With regards to the possible covariates, gender correlated significantly with eight of the ten variables of interest (items 8-17 in *Table 2*) suggesting this should be included in further analyses – with females reporting significantly lower adaptation (psychological and sociocultural), more negative appraisals and higher mental health symptoms. Trauma exposure was significantly positively correlated with the negative appraisals and outcome mental health variables, which suggested this should also be controlled for in subsequent analyses.

Table 2 *Bivariate correlations between study variables, and means and standard deviations for quantitative measures for the total sample (N= 161)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Gender†	--																	
2. Age	-.15	--																
3. Time in UK	-.08	.72**	--															
4. Age at migration	-.09	.51**	-.12	--														
5. Ethnicity†	9.57*	.000	-.01	-.02	--													
6. Level of education†	3.55	-.14	-.13	-.01	23.20	--												
7. Immigration status†	6.60	.38**	.44**	.09	86.04**	31.65	--											
8. Home Acculturation Orientation	.18*	.01	-.00	.15	-.04	-.01	.01	--										
9. Host Acculturation Orientation	-.05	.05	.12	-.03	.06	.03	.08	.05	--									
10. Psychological Adaptation	-.23**	.16*	.23**	-.07	-.04	.14	.14	-.14	.36**	--								
11. Sociocultural Adaptation	-.31**	.05	.09	-.03	-.05	.11	.13	-.12	.43**	.63**	--							
12. Perceived Cultural Distance[1]	-.09	.07	.01	-.01	.27**	-.09	-.05	-.02	.12	.11	.17*	--						
13. Personal Negative Appraisals	.16*	-.18*	-.14	-.06	-.08	-.05	-.09	-.07	-.14	-.39**	-.24**	-.13	--					
14. Public & Communal Appraisals	.18*	-.07	-.07	.02	-.01	-.11	-.05	-.11	-.17*	-.45**	-.32**	-.07	.80**	--				
15. PTSD Symptoms	.20**	-.12	-.08	-.06	.06	-.12	-.14	-.10	-.12	-.50**	-.28**	-.14	.75**	.76**	--			
16. Depression Symptoms	.19*	-.24**	-.18*	-.09	.12	-.12	-.20**	-.09	-.12	-.49**	-.27**	-.02	.63**	.66**	.74**	--		
17. Anxiety Symptoms	.32**	-.24**	-.15	-.15	.16*	-.11	-.29**	-.07	-.14	-.47**	-.27**	-.12	.56**	.56**	.74**	.74**	--	
18.Trauma Exposure	-.08	-.05	-.12	.05	.19*	.09	-.12	.04	-.04	-.20*	-.17*	-.05	.25**	.34**	.30**	.21**	.24**	--
M	--	40.63	14.02	25.34	--	--	--	19.26	20.68	26.84	58.50	36.75	43.12	48.41	37.81	13.88	12.20	8.55
SD	--	11.45	9.59	7.73	--	--	--	5.40	4.70	6.81	12.92	13.77	23.23	27.00	16.94	5.42	4.91	6.25

Note: Pearson's correlations were run between continuous variables; Point-biserial correlations were applied between a categorical variable and a continuous variable; and Chi-square tests were run between categorical variables.

[1]Reversed scale

** $p < .01$

* $p < .05$

† Indicates a categorical variable

4.4.3. Cluster analysis

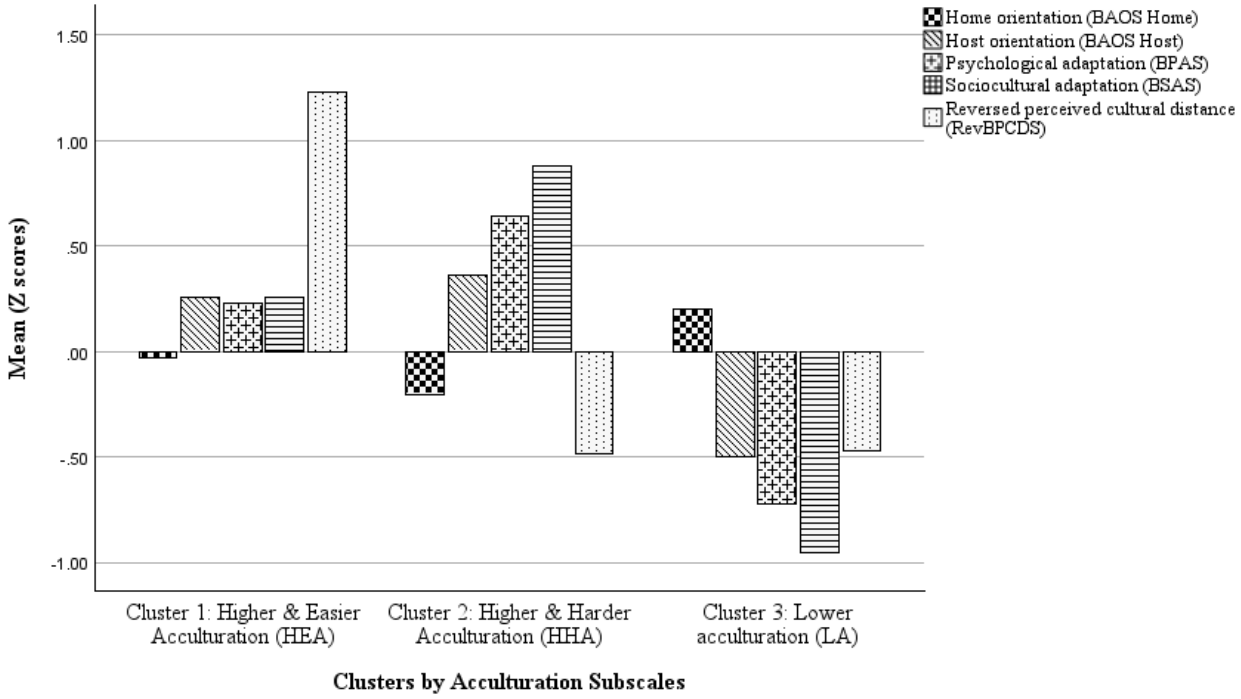
Cluster analyses based on the acculturation measures were performed using *K-means* clustering, which divides the data into a specified number of *K* clusters by iteratively minimising the sum of the squared distances of each respondent to the mean of its assigned cluster until the cluster assignments do not change (Bruce & Bruce, 2017). It was set to two, three and four clusters solutions to examine the most stable and stronger solution. Although there cannot be statistically determined optimal number of clusters, cluster sizes and means are used for interpreting the clusters (ibid). Although all cluster solutions examined were considered valid, the three cluster solution was chosen over the two and four cluster solutions due to cluster sizes being the most balanced. The number of iterations before achieving convergence was eight, which is below the threshold of 10 recommended (IBM, 2021). All subscales except the home orientation (BAOSHome) were significantly different between clusters ($p < .05$). It was decided that this non-significant subscale would not be removed from the cluster analysis for theoretical reasons, as it mirrors and complements the items of the host culture orientation subscale (BAOSHost), but its non-significance was taken into account when describing the clusters.

In order to interpret the cluster solution, a visual representation of the Z scores for each subscale was produced (*Fig 4*) and patterns emerged as follows:

Cluster 1 – Higher & Easier Acculturation (HEA) (n = 45): The home and host cultures were perceived as very similar (High RevBPCDS; $F(2, 158) = 112.76$, $p = <.001$) along with the rest of the significant subscales (BAOSHost, BPAS & BSAS) suggest that this group has achieved a high degree of acculturation, whilst coming from a culture of

origin perceived as being similar to that of the UK, hence the acculturative process is likely to have been easier.

Figure 4 *Visual representation of Z scores for acculturation subscales by cluster*



Cluster 2 – Higher and Harder Acculturation (HHA) (n = 54): The home and host cultures were perceived as different (low RevBPCDS) along with the highest scores on the BAOSHost, BPAS & BSAS which suggest that, despite expecting the UK culture to be more different to their home culture, the individuals in this cluster have achieved a high level of acculturation. Although not significant, this cluster displays the lowest scores on home orientation (BAOSHome), suggesting a distancing from their home culture and more assimilation to the UK culture (High BAOSHost; $F (2, 158) = 15.06$, $p < .001$). This cluster had the highest level of male participants (46.8% of the total male sample, and 40.7% of the cluster), and presented the lowest level of trauma exposure of the three clusters, with a mean of 6.93 (SD = 6.37).

Cluster 3 – Lower acculturation (LA) (n = 62): The scores on all significant subscales (BAOSHost, BPAS, BSAS & RevBPCDS) indicate the lowest acculturation of the three clusters, except for RevBPCDS scores, which had an almost identical mean to the HHA cluster. This suggests that they perceived their home culture to be dissimilar to the host culture and were finding it more difficult to adapt to the UK culture. The relationship between home (BAOSHome) and host (BAOSHost) orientation was inverse compared to the other two clusters, suggesting valuing their home culture more than the UK one. In the literature this has been correlated with lower acculturation (separation or marginalisation from host culture) (Choy et al., 2020). The level of trauma exposure was the highest of the three clusters, with a mean of 9.80 (SD = 5.13).

Table 3 shows the descriptive statistics for each cluster. Multivariate analyses of variance and chi-squared tests were performed to determine whether there were significant differences between groups regarding: age, length of stay in UK, age at migration, gender, and trauma exposure. Only gender (X^2 (2, N=161) = 8.97, p = .011) and trauma exposure (F (2, 158) = 3.191, p = 0.44) showed significant differences between clusters. Post hoc comparisons using a Tukey HSD test indicated that trauma exposure was significantly higher in the LA cluster compared to HHA (p = .035 [-5.60, -.17]).

Table 3 *Descriptive statistics by cluster and totals*

	Total (N=161)	**Cluster 1 HEA (n=45)**	**Cluster 2 HHA (n=54)**	**Cluster 3 LA (n=62)**
Gender *n (%)*				
Male	47 (29.2)	15 (33.3)	22 (40.7)	10 (16.1)
Female	114 (70.8)	30 (66.7)	32 (59.3)	52 (83.9)
Age (years) *M (SD)*	40.63 (11.45)	40.09 (12.47)	41.30 (11.35)	40.43 (11.15)
Time in UK (years) *M (SD)*	14.02 (9.59)	14.42 (8.79)	14.19 (9.10)	13.58 (10.65)
Age at migration (years) *M (SD)*	25.34 (7.73)	23.89 (6.00)	26.04 (9.38)	25.80 (7.20)
Ethnicity *n (%)*				
Asian	32 (19.9)	7 (15.5)	14 (25.9)	11 (17.7)
Black / African / Caribbean	29 (18.0)	4 (8.9)	16 (29.6)	19 (30.6)
Mixed Ethnic Group	4 (2.5)	0 (0)	3 (5.6)	1 (1.6)
Other	10 (6.2)	0 (0)	6 (11.1)	4 (6.5)
White	76 (47.2)	34 (75.6)	15 (2.8)	27 (43.5)
Level of Education *n (%)*				
Secondary up to 16	6 (3.7)	1 (2.2)	2 (3.7)	3 (4.8)
Higher secondary (A-levels)	13 (8.1)	3 (6.7)	4 (7.4)	6 (9.7)
College or University	52 (32.3)	18 (40.0)	11 (20.4)	23 (37.1)
Post-graduate	87 (54.0)	23 (51.1)	34 (63.0)	30 (48.4)
Unspecified	3 (1.9)	0 (0)	3 (5.6)	0 (0)
Immigration Status *n (%)*				
Refugee	6 (3.7)	0 (0)	2 (3.7)	4 (6.5)
Visa	18 (11.2)	6 (13.3)	3 (5.6)	9 (14.5)
Permanent residence	59 (36.6)	21 (46.7)	19 (35.2)	19 (30.6)
UK Citizenship	72 (44.7)	17 (37.8)	27 (50.0)	28 (45.1)
Other	6 (3.7)	1 (2.2)	3 (5.6)	2 (3.2)
Trauma Exposure *M (SD)*	8.55 (6.2)	8.77 (5.96)	6.93 (6.37)	9.81 (6.13)

Note: HEA = higher & easier acculturation; HHA = higher & harder acculturation; LA = lower acculturation.

4.4.4. Hypotheses 1 & 2: Are acculturation levels associated with cognitive processing of traumatic events?

Table 4 shows the results of the one-way ANCOVAs conducted to determine any significant differences between clusters on each of the variables controlling for gender and trauma exposure. Homogeneity of variance was tested with Levene's test, and parameter estimates with robust standard error calculations were made for variables showing heteroscedasticity. Estimated marginal means and bootstrapped pairwise comparisons were calculated to determine where the significant differences between clusters lay.

There were significant effects of acculturation between clusters for both personal negative appraisals ($F (2, 156) = 4.018$, $p = .020$) and public appraisals ($F (2, 156) = 6.91$, $p < .001$) after controlling for gender and trauma exposure. With regards to subscales, only negative cognitions about the world presented significant differences between clusters ($F (2, 156) = 7.52$, $p < .001$). Where significant effects were found, participants in both HEA and HHA groups had significantly lower scores on than participants in the LA group ($p < .02$). Effect sizes were small for personal negative appraisals ($.01 < \eta 2 < .06$), and medium for Public & Communal Appraisals ($.06 < \eta 2 < .14$) based on Cohen's (1988) eta-squared effect sizes.

There were significant effects of acculturation on PTSD symptoms ($F (2, 156) = 3.948$, $p = .021$) and for Depression symptoms ($F (2, 156) = 3.407$, $p = .036$), but not on anxiety symptoms. Participants in both HEA and HHA groups had significantly lower PTSD scores than those in the LA group. Only the HHA group had significantly lower depression scores than the LA group ($p = .008$). Effect sizes were small for both PTSD symptoms and Depression symptoms ($.01 < \eta 2 < .06$) based on Cohen's (1988) eta-squared effect sizes.

Table 4 *Means and adjusted means by cluster for negative appraisals and mental health outcome measures, and ANCOVA results with adjusted p-values for variables where the homogeneity of variance is violated (Levene's test significant)*

	1. Higher & Easy (HEA)		**2. Higher & Harder (HHA)**		**3. Lower (LA)**		**Statistics**		**Differences[1]**
	M (SD)	M_{Adj} *(SE)*	*M (SD)*	M_{Adj} *(SE)*	*M (SD)*	M_{Adj} *(SE)*	ANCOVA	Levene's Test[2]	
Personal Negative Appraisals Total	38.11 (21.23)	38.19 (3.26)	37.80 (21.49)	39.97 (3.05)	51.40 (24.00)	49.46 (2.85)	F (2, 156) = 4.018 p = .020 η^2 = .049	Homogenous F (2, 158) = 1.024 p = .362	HEA < LA (p = .018) HHA < LA (p = .031)
Private Self-Appraisals	25.38 (14.51)	25.41 (2.31)	24.59 (15.07)	26.06 (2.16)	32.85 (17.43)	31.56 (2.02)	F (2, 156) = 2.490 p = .086 η^2 = .031	Homogenous F (2, 158) = 1.30 p = .276	n/a
Negative Cognitions about World	9.29 (5.75)	9.32 (.88)	9.91 (6.14)	10.50 (.82)	14.19 (6.13)	13.66 (.77)	F (2, 156) = 7.52 p < .001 η^2 = .088	Homogenous F (2, 158) = .153 p = .858	HEA < LA (p <.001) HHA < LA (p = .004)
Self-Blame	3.44 (2.45)	3.46 (.39)	3.30 (2.48)	3.41 (.37)	4.35 (2.89)	4.24 (.35)	F (2, 156) = 1.65 p = .195 η^2 = .021	Homogenous F (2, 158) = 2.22 p = .112	n/a
Public & Communal Appraisals Total	43.76 (25.13)	43.81 (3.59)	38.50 (20.54)	41.60 (3.36)	60.41 (29.00)	57.69 (3.14)	F (2, 156) = 6.91 p < .001 η^2 = .081	Not homogenous F (2, 158) = 6.286 p = .002	(adjusted) HEA < LA (p = .008) HHA < LA (p = .002)
Challenges to Beliefs & Belonging	12.21 (8.04)	12.29 (1.09)	10.46 (6.03)	11.18 (1.02)	16.73 (8.33)	16.12 (.95)	F (2, 156) = 6.638 p = .002 η^2 = .078	Not homogenous F (2, 158) = 3.663 p = .028	(adjusted) HEA < LA (p = .019) HHA < LA (p = .002)
Communal Self-Appraisals	17.00 (10.44)	17.05 (1.52)	14.69 (8.22)	15.91 (1.42)	23.77 (12.44)	22.67 (1.33)	F (2, 156) = 6.642 p = .002 η^2 = .078	Not homogenous F (2, 158) = 7.593 p < .001	(adjusted) HEA < LA (p = .015) HHA < LA (p = .004)

Public Self-Appraisals	14.44 (8.69)	14.47 (1.33)	13.35 (8.30)	14.50 (1.25)	19.92 (10.69)	18.90 (1.17)	F (2, 156) = 4.266, p = .016 η^2 = .052	Not homogenous F (2, 158) = 5.571 p = .005	(adjusted) HEA < LA (p = .014) HHA < LA (p = .013)
PTSD Symptoms	34.42 (14.99)	34.53 (2.32)	33.37 (15.39)	35.37 (2.17)	44.13 (17.85)	42.32 (2.03)	F (2, 156) = 3.948, p = .021 η^2 = .048	Homogenous F (2, 158) = 1.364 p = .259	HEA < LA (p = .017) HHA < LA (p = .037)
Depression Symptoms	13.22 (5.24)	13.26 (.77)	12.33 (4.80)	12.81 (.72)	15.71 (5.61)	15.27 (.67)	F (2, 156) = 3.407, p = .036 η^2 = .042	Homogenous F (2, 158) = 2.729 p = .068	HHA < LA (p = .008)
Anxiety Symptoms	11.58 (4.02)	11.67 (.67)	10.94 (4.70)	11.64 (.62)	13.75 (5.25)	13.08 (.58)	F (2, 156) = 1.785, p = .171 η^2 = .022	Homogenous F (2, 158) = .962 p = .384	n/a

[1] Estimated Marginal Means (EMMs) for group differences. Only significant differences reported (p-value for bootstrap pairwise comparisons).
[2] Levene's test: to assess homogeneity of variance. If test appeared as significant, parameter estimates with robust standard errors calculations were made for variables showing heteroscedasticity (unequal variance of errors).
Note: HEA = higher & easier acculturation; HHA = higher & harder acculturation; LA = lower acculturation

4.4.5. Hypothesis 3: Do negative appraisals mediate the relationship between acculturation and mental health symptoms?

To explore whether the relationship between acculturation and mental health symptoms (PTSD, Depression and Anxiety) was mediated by negative appraisals, mediation analyses were conducted. Individual indirect effects of acculturation on mental health symptoms via negative appraisals were computed using the PROCESS macro for SPSS (Hayes, 2013), including gender and trauma exposure as covariates.

Upon reviewing p-values and confidence intervals of parameter estimates, significant indirect effects of acculturation on mental health symptoms were observed for all models as expected, with percent mediation values between 64 and 86% when using the three clusters as the predictor variable (*Table 5*). Public & Communal Appraisals showed the strongest percent mediation effect on both Depression and Anxiety Symptoms (86%). These results suggest a mediating role of negative appraisals on the relationship between acculturation and mental health symptoms.

Bootstrapped pairwise comparisons by cluster showed that mediation was significant for comparisons between HEA and LA, and between HHA and LA, but not between HEA and HHA, that is, the indirect effect's confidence interval did not include zero (*Appendix 13*). To further explore the robustness of these findings, acculturation was computed as a continuous variable using a composite Z score of the acculturation subscales. A similar pattern emerged whereby all the indirect effects were significant and negative, indicating that acculturation and mental health symptoms were negatively associated (i.e., lower Z scores on acculturation was associated with higher mental health symptoms). Percentage mediation ranged between 42% and 68%, lower than when using acculturation clusters as a categorical independent variable (*Appendix 13*).

Table 5 *Unstandardised total, direct and indirect effects of the hypothesised mediation models*

	Total effect		**Direct Effect**		**Indirect Effect**	**% Mediation**
	(SE) (95% CI)	**t-statistic (p)**	**(SE) (95% CI)**	**t-statistic (p)**	**(SE) (95% CI)**	
By Clusters (categorical IV)						
Acc → Personal negative appr → PTSD	3.18 (1.11) (.99 – 5.38)	2.87 (.00)*	1.13 (.81) (-.48 – 2.74)	1.39 (.17)	2.05 (84) (.46 – 3.77)*	64 %
Acc → Public & communal appr → PTSD	3.18 (1.11) (.99 – 5.38)	2.87 (.00)*	.91 (.83) (-.73 – 2.55)	1.10 (.27)	2.27 (.85) (.65 – 3.94)*	71 %
Acc → Personal negative appr → Depr	.96 (.46) (.04 – 1.87)	2.07 (.04)*	.25 (.39) (.51 – -.51)	.65 (.51)	.70 (.29) (.17 – 1.30)*	74 %
Acc → Public & communal appr → Depr	.96 (.46) (.04 – 1.87)	2.07 (.04)*	.13 (.38) (-.62 – .89)	.35 (.72)	.82 (.33) (.22 – 1.48)*	86 %
Acc→ Personal negative appr → Anx	.73 (.44) (-.15 – 1.60)	1.63 (.10)	.15 (.40) (.71 – -.63)	.38 (.71)	.58 (.26) (.12 – 1.15)*	79 %
Acc → Public & communal appr → Anx	.73 (.44) (-.15 – 1.60)	1.63 (.10)	.10 (.40) (-.70 – .90)	.25 (.80)	.63 (.25) (.16 – 1.15)*	86 %

* indicates significance ($p < .05$ or a *CI* that does not include the 0).

Note: SE = standard error; CI = confidence interval; Acc = Acculturation; Appr = appraisals; Depr = depression symptoms; Anx = anxiety symptoms.

4.5. Discussion

This study examined how acculturation is associated with post-traumatic appraisals and mental health symptoms and makes a significant contribution by addressing several gaps in the literature.

Firstly, three acculturation groups were generated which displayed different patterns of acculturation: Higher & Easier Acculturation (HEA); Higher and Harder Acculturation (HHA); and Lower Acculturation. HEA and HHA differed most significantly in how different they perceived their culture of origin compared to the UK culture, and HHA presented better psychological and sociocultural adaptations compared to HEA. The LA group displayed lower scores on all subscales except for home orientation, suggesting less psychological and sociocultural adaptation, as well as lower orientation to the UK culture and fewer similarities were perceived between the home culture and the UK culture.

The differing role of perceived cultural difference in each cluster supports the unique role of this variable on the acculturation process, as suggested in the literature (Galchenko & van de Vijver, 2007; Malay et al., 2024).

Although only significantly different for orientation to the host culture, the three clusters could tentatively be mapped onto Berry's (1980, 1997) bi-dimensional model of acculturation strategies such that: the LA group would correspond to separation, HEA to integration and HHA to assimilation. Given that HHA group displayed the highest perceived cultural distance, they also presented the highest psychological and sociocultural adaptations, suggesting that they had most positively undergone acculturation and integrated to the UK culture.

It was hypothesised that a higher degree of acculturation would be associated with fewer negative cognitions and mental health symptoms. Both H1 and H2 were supported, showing significant effects of acculturation on negative appraisals and mental health outcomes, except for anxiety symptoms. With regards to negative appraisals, public and communal self-appraisals and negative cognitions about the world were significantly correlated with acculturation, whereas private self-appraisals and self-blame did not show significant differences. This is consistent with the theoretical underpinning of the construct of acculturation, where individual-level factors operate within a broader ecological context of intercultural contact (Stuart & Ward, 2015; Ward & Geeraert, 2016), and might explain the finding of a stronger link between interpersonal appraisals and acculturation, compared to intrapersonal ones.

With regards to covariates, exposure to trauma was a significant covariate, in line with previous studies that looked at associations between trauma exposure and PTSD (Javidi & Yadollahie, 2012), depressive disorders (Backholm & Björkqvist, 2012) and anxiety disorders (Breslau et al., 2000). Gender was also found to be a significant covariate in line with previous evidence (Yoon et al., 2013). Contrarily to what was anticipated (see Schmitz & Schmitz, 2022), time since migration was not a significant covariate in the present sample.

The exploratory mediation analyses supported the hypothesis that negative appraisals would mediate the relationship between acculturation and mental health outcomes. All mediation models were significant suggesting that the higher the acculturation and the lower the negative appraisals are; and that lower negative appraisals lead to lower mental health symptoms. Pairwise comparisons highlighted a similar pattern

to the linear regressions, whereby the LA group significantly differed from HEA and HHA groups.

On all the variables, LA had the highest scores, followed by HEA and HHA, suggesting that those with lower acculturation experience significantly more negative cognitions, PTSD symptoms and depression symptoms. Interestingly, acculturation groups did not differ significantly on anxiety symptoms, although the mean of each cluster indicated mild anxiety (HEA = 7.93, HHA = 7.45, LA = 9.56 (Spitzer et al., 2006). One possibility is that this points to acculturation processes as being stress- and coping-oriented (Ward & Szabó, 2019) in that all groups may experience similar levels of anxiety as they acculturate to the host culture.

Taking all analyses into account and comparing acculturation groups, the LA group displayed mean scores on the PCL-5 [M(SD) = 34.50 (17.85)] and PHQ-8 [M(SD) = 11.03 (5.61)] indicating that some participants would meet clinical criteria for PTSD and moderate depression (Blevins et al., 2015; Kroenke et al., 2009), over and above those in the HEA and HHA groups.

Findings suggest that acculturation should be conceptualised as a dynamic stress process, as well as an outcome (Schwartz et al., 2010). Rather than pathologising low acculturation, cognitive approaches tackling negative cognitive appraisals could be utilised in therapy to support challenging posttraumatic negative appraisals (e.g., through cognitive restructuring or exposure therapy) (Mueser et al., 2008).

Although personal negative posttraumatic cognitions as measured by the PTCI have been considered a risk factor for the development and maintenance of PTSD, depression and anxiety disorders (see Gradl et al., 2023), the present findings also highlight the importance of public and communal negative appraisals. This includes how they are

associated with acculturation and how they may act as the strongest percent mediation effect between acculturation and mental health outcomes examined. Considering the impact of culture on appraisals may therefore be advisable in clinical practice (Jobson et al., 2024), as part of a culturally informed and appropriate assessment and treatment for those who have experienced trauma. Themes such as the impact of trauma on the interconnectedness of the group to the individual, the importance of social roles, cultural appropriateness and the impact of violations of cultural values and norms may be affecting the meanings attached to trauma (Engelbrecht & Jobson, 2016). An area of future research would be to investigate how self-construal (Markus & Kitayama, 1991; i.e., interdependence vs independence differences found in collectivistic vs individualistic cultures) interacts in the processes of acculturation and trauma processing.

4.5.1. Limitations and implications for future studies

This study has several limitations. Firstly, in terms of study design, the measures used were developed for clinical populations, whereas the present sample was non-clinical. It also relied on self-report. Additionally, systemic influences were not captured in the variables measured, such as religious affiliation and the attitudes of the host culture towards the individuals' culture of origin. The political climate of racism and anti-immigration protests during the data collection period may have impacted the perceived discrimination, which has been shown in the literature as having harmful effects on psychological wellbeing (Schmitt et al., 2014). Future research could incorporate religion and perceived discrimination as covariates.

Secondly, although construct overlap was minimised in the mediation model through the removal of cognitive appraisal items from the mental health symptoms scales, redundancy might not have been fully accounted for. In addition, the measures of negative

appraisals were initially developed to measure post-traumatic cognitions which develop after trauma exposure (Foa et al., 1999). Thus, it is to be expected that they will correlate strongly with PTSD symptoms specifically.

Thirdly, regression analyses of cross-sectional data do not allow for causality to be inferred. Data at two different time points would be required to explore causal relationships between variables of interest. Additionally, although trauma exposure was controlled for, the temporal order of events was not accounted for in the present study, so it is difficult to determine the impact of each individual variable on the others. For instance, it is not possible to determine if trauma exposure pre-migration influences acculturation. Future research should endeavour to investigate the mechanisms by which the mediating effects of negative appraisals differ based on whether the traumatic exposure happened either pre- or post-acculturation process.

4.5.2. Conclusion

Overall, this study sheds light on the role of acculturation on the processing of traumatic events and subsequent mental health symptoms, both at the intrapersonal and the interpersonal level. That individuals with lower acculturation levels display clinical levels of mental health symptoms and more negative appraisals warrants the exploration of acculturative process in clinical practice and its impact on stress and subsequent mental health difficulties. This is especially relevant for those whose culture of origin is perceived as more different to the host culture. A distinction between personal and public/communal appraisals could also be beneficial for individuals having experienced traumatic events.

Declaration of Conflicting Interests

There was no direct funding for this research. The author declares that there is no conflict of interest.

Data Availability

The data that support the findings of this study are available from the corresponding author, AP, upon reasonable request.

4.6. References: Theoretically-Driven Research Project

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5. Executive Summary

Lay summary of TDRP

Research Title: Cognitive Processing of Stressful Life Events in Individuals having Migrated to the UK

Why were we interested in individuals that have migrated to the UK?

- When people move from their country of origin to a different culture, they go through a process called acculturation. Acculturation involves the changes of behaviours and the strategies which people develop that allow them to adapt to the new culture whilst still retaining some aspects of their culture of origin.

- Moving to a new culture is often seen as a stressful process, and can lead to difficulties in the sense of belonging and overall wellbeing of migrants. Some individuals integrate better into the new culture, whilst others might struggle a bit more.

- The UK has seen an increase in migration from other nations in the last decades, so we were interested in understanding how individuals who have migrated to the UK adapt to the culture here.

Why were we interested in 'cognitive processing of stressful life events'?

- When faced with stressful or traumatic life events, people might develop negative ways to view themselves, others and the world.

- This negative cognitive processing of stressful life events can contribute to the development and maintenance of mental health issues such as post-traumatic stress disorder, depression or anxiety.

- Understanding how people process stressful life events depending on how well they are adapted to the culture could help professionals to select and design better support for people who have migrated to the UK.

What did we do?

- We recruited people from the community (e.g. via social media, local organisations, and community groups) who live in the UK but grew up in another culture.

- Participants completed an online or paper survey which included questions about culture, stressful life events, mental health and cognitive processing.

- We divided participants into three groups based on their answers to questions about how they were finding life in the UK.

What did we find?

- The first group was made up of people who were well adapted to the UK culture but came from a similar culture of origin. Participants in the second group were very well adapted to the UK culture but that process of adaptation had been harder because they came from a culture which was very different. The third group was made up of participants who were less well adapted compared to the other two groups.

- There were differences in how people processed traumatic life events depending on the group they were in. Those in the less well adapted group had more negative thoughts related to the stressful life events and worse mental health outcomes.

- We found that we can predict mental health difficulties based on how migrants adapt to the new culture and that this will depend on how they process stressful life events they have been through.

What are the real-world implications?

- Professionals may find it helpful to understand how adapting to a new culture is a stressful process in and of itself for migrants.

- Professionals may be able to take into account the impact of how people process traumatic life events and how it is different for people who come from a culture that is very different to the UK.

- Assessing the way migrants process traumatic events and how they are adapting to the UK culture may help alleviate mental health difficulties.

What are some limitations of our study?

- We used questionnaires in English that have not necessarily been used before for non-native English speakers.

- We relied on people's own experience of adapting to the UK culture, but did not take into account the wider context of anti-immigration protests that were happening in the UK during the research.

- Although we asked people whether they had experienced stressful life events before or after migrating, we cannot determine if going through traumatic events before migrating influences how someone adapts to a new country in our study.

6. Connecting Narrative

Looking back to the start of the doctorate, I can't help but notice the journey it has been for me personally, academically and professionally. What seemed like an impossible mountain to climb at the stage of research proposal development has been a steady progression, entailing frustrations and tiredness but also bringing the satisfaction of seeing each research project come to life, and the realisation that I was learning considerably along the way.

At the start, I was aware of the need to develop good habits to use study days effectively and maintain separation between the academic, research, and placement components of the working week. I look back with satisfaction, recognising that I have been able to meet the demands of each part of training. I can say that I finally understand that fine balance between the clinician and researcher roles they ask of us as Clinical Psychologists, and I am convinced of the importance of maintaining both roles in post-qualified practice.

In my previous research experience, I noticed how many decisions take place throughout the process. From narrowing down the research questions to determining the data collection, and analysing the data, there are many directions a research project can take. It became clear early on that I would need to document each decision if I wanted to keep the focus of the original research idea. It is interesting to look back and see where that refining process has led, and the questions for future research which have emerged from my own results. This thesis is just the tip of the iceberg: there is always more to discover and dig deeper into.

6.1. Systematic Review of the Literature

Of the three projects, I thought the SRL would be the most straightforward, as timelines would be managed entirely by me and the co-reviewer. However, I did not anticipate that the research questions would require so much refining along the way. There were so many different ways that I could have narrowed down this project, which turned out to be far bigger than the scoping search had indicated. Being thorough in the screening stages was therefore essential. Having a second researcher to screen and rate papers proved very useful to remain systematic, as I noticed a tendency towards bias based on my previous knowledge and what I expected to find in the literature.

Having a personal interest in studying acculturation and religious belief made it an interesting process, and I can now appreciate the benefit of conducting a systematic review of the literature prior to conducting empirical research, as this allows an accurate knowledge of the existing literature on that topic.

With regards to the impact of this research project on my clinical practice, I am more confident in the exploration of both spirituality and the impact of migration with my clients at the stage of assessment, but also try to include it in the formulation when I work with individuals from diverse cultural background and those who adhere to a faith group.

6.2. Service Improvement Project

The SIP was the first project I developed. I was in my first year of training, and had a year-long placement in the OHHI. The team was in its early stages of development, still defining their ethos and service remit. A SIP seemed like a good investment, which could contribute to making a case for ongoing funding from commissioners.

Developing the research proposal proved relatively easy, as it responded to some frustrations that both the team and third sector organisations were experiencing in responding to the needs of PEH. In my day-to-day work with the charities, I was also aware of these challenges, and found myself advocating on their behalf to get people experiencing homelessness referred to appropriate services, whilst also contributing to the conversations about service development to ensure we did not repeat the same tightening of inclusion criteria for our service users who are so often excluded from accessing support on this basis.

Being on placement in the service, and working in collaboration with third sector organisations facilitated access to participants, and I was encouraged by how much enthusiasm there was on disseminating the results of the SIP among them. I was able to go back to the OHHI team to feed back the results and discuss ways to take the recommendations forward. Additionally, I received positive feedback from the third sector organisations that had participated, and I was able to present the results at the Oxford Research Impact Event organised by the Homelessness Community of Practice (HCOP).

6.3. Theory Driven Research Project

If you had asked me prior to starting training about my weakest area, I would have responded straight away with research. I was intimidated by the scale of the TDRP we were asked to produce. I was also quite aware of my own scepticism around academia and the crisis of relevance that our field has been plunged in for the last decade, as well as my reluctance to contribute to this further.

My interest in psychological trauma and my lived experience of acculturation made it an easy choice of topic. Linking it to the cognitive model of PTSD required lengthy discussions with supervisors and much literature search, as well as swinging from concern that it was too complex a topic, to worry that it was too simple and would not be substantial enough to be approved at PAS. However, upon reflection, it has been a steep learning curve, and I can say it is the project that I know the best on of the three.

What made it most interesting was the contact with participants who chose to complete the survey with me rather than online or on paper. So many wanted to share their experiences of migration in far more detail than what multiple-choice questionnaires allow. This project does not do justice to their experiences, but I can only hope it will be one step closer to understanding migration and trauma.

Acknowledgements

I would like to thank my supervisors Dr Myra Cooper, Dr Reena Vohora, Dr Neil Carrigan, Dr Graham Thew and Dr Rashmi Shankar for all their support during this process. I would also like to thank my course tutor Dr Alasdair Churchard, for his constant support and encouragement whilst overseeing the three components of training: the academic, the clinical, and the research parts.

I am grateful to the staff from the Oxfordshire Health & Homelessness Inclusion (OHHI) Team, as well as the staff from the charities that participated in my SIP: Homeless Oxfordshire, Connection Support and A2Dominion. They really give their best to provide a voice for those who have not been listened to and do not have the means to make their own voice heard.

A special thanks is due to the two experts by expereience, Andrew and Yaman, who provided much valuable input in the research questions and design of the SIP and the TDRP, as well as to the charities, community groups and individuals supporting those who have migrated to the UK, who showed an interest in my TDRP and helped me to recruit research participants.

I am thankful to Hannah Wilkinson for her help with my systematic review — her throughtful questions were key throughout the process — and Liam Myles for his generous giving of time to support me with the statistical analyses for the TDRP. I'm equally thankful to Ruby and Jonny who very kindly proofred my thesis at very short notice. Finally, I would like to thank my family and friends for all of their emotional and moral support throughout the course, and for always encouraging me to press on.

Appendices

Appendix 1: SRL Quality appraisal of studies

A total quality rating was calculated by summing the total score obtained across relevant items and dividing by the total possible score, thus obtaining a percentage which was rated as: low quality (<55%), medium quality (55-75%) or high quality (>75%). Items 5, 6 and 7 of the Quality Assessment Tool were not used due to not being relevant to the articles included (indicated as n/a)

Authors (year)	**1. Question clear**	**2. Study design**	**3. Method of subject comparison/ input variables**	**4. Subject characteristics**	**5. Randomisation**	**6. Intervention: investigators blinded**	**7. Intervention: subjects blinded**	**8. Outcome measure(s) defined and robust**	**9. Sample size appropriate**	**10. Analytic methods described/ justified / appropriate**	**11. Estimate of variance reported**	**12. Controlled for confounding**	**13. Results reported**	**14. Conclusions supported by re-sults**	**TOTAL (%) Quality Rating**
Al-Krenawi et al. (2021)	2	0	2	1	n/a	n/a	n/a	1	1	0	1	0	1	2	50; low
Amit & Bar-Lev, (2015)	1	1	1	1	n/a	n/a	n/a	2	2	2	1	0	0	1	54.5; low
Bender et al. (2022)	2	1	2	2	n/a	n/a	n/a	1	2	1	2	0	2	2	77.3; high
Copolov et al. (2018)	2	2	2	2	n/a	n/a	n/a	2	1	2	2	2	2	1	90.9; high
Da Silva et al. (2017)	2	1	2	2	n/a	n/a	n/a	1	2	1	2	2	1	2	81.9; high
Dinh et al. (2009)	2	2	1	1	n/a	n/a	n/a	2	1	2	1	2	1	2	77.3; high
Flaskerud & Uman (1996)	1	2	1	2	n/a	n/a	n/a	0	1	1	1	2	1	1	59.1; medium

Ghaffari & Çiftçi (2010)	2	2	1	2	n/a	n/a	n/a	2	1	1	1	1	2	2	77.3; high
Giuliani et al. (2018)	2	1	1	1	n/a	n/a	n/a	2	1	2	1	1	2	2	72.7; medium
Kim et al. (2018)	1	2	1	2	n/a	n/a	n/a	2	1	2	2	2	2	1	81.8; high
Kim et al. (2020)	1	2	1	2	n/a	n/a	n/a	1	1	1	0	0	2	2	59.1; medium
Le et al. (2021)	2	2	1	2	n/a	n/a	n/a	2	2	1	2	2	1	2	86.4; high
Nam (2023)	1	1	1	1	n/a	n/a	n/a	1	0	1	1	0	1	0	36.4; low
Nguyen et al. (2021)	2	1	1	1	n/a	n/a	n/a	1	2	1	2	2	1	1	68.2; medium
Park & Roh (2013)	1	2	2	1	n/a	n/a	n/a	2	1	2	2	2	1	2	81.8; high
Park et al.(2012)	2	1	2	1	n/a	n/a	n/a	2	1	2	2	2	1	2	81.8; high
Sanchez et al. (2019)	2	1	2	1	n/a	n/a	n/a	2	2	2	1	2	1	1	77.3; good
Sanchez et al. (2015)	2	2	2	1	n/a	n/a	n/a	2	2	2	1	2	1	2	86.4; high
Sanchez et al. (2012)	1	2	2	1	n/a	n/a	n/a	1	2	1	1	2	2	1	72.7; medium
Kirchner & Patiño (2010)	1	1	1	1	n/a	n/a	n/a	2	1	1	2	2	1	1	63.6; medium
Abou-Abbass et al. (2024)	1	1	1	2	n/a	n/a	n/a	1	1	0	2	0	1	1	50; low

Note: 1. Question/Objective Sufficiently described?; 2. Study design evident and appropriate?; 3. Method of subject/comparison group selection or source of information/input variables described and appropriate?; 4. Subject (& comparison group, if applicable) characteristics sufficiently described?; 5. If interventional and random allocation was possible, was it described?; 6. If interventional and blinding of investigators was possible, was it reported?; 7. If interventional and blinding of subjects was possible was it reported?; 8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement misclassification bias? Means of assessment reported?; 9. Sample size appropriate?; 10. Analytic methods described/justified and appropriate?; 11. Some estimate of variance is reported for the main results?; 12. Controlled for confounding?; 13. Results reported in sufficient detail?; 14. Conclusions supported by the results?
Scoring system: 2 = yes; 1 = partial; 0 = no; n/a = not applicable. *Quality ratings*: <55% = *low quality*; 55-75% = *medium quality*; >75% = *high quality*.

Appendix 2: SRL PROSPERO Registration and Protocol

Exploring acculturation and religious coping and its impact on psychological wellbeing: a systematic review

Anais Philippe, Reena Vohora, Rashmi Shankar

Review methods were amended after registration. Please see the revision notes and previous versions for detail.

Citation

Anais Philippe, Reena Vohora, Rashmi Shankar. Exploring acculturation and religious coping and its impact on psychological wellbeing: a systematic review. PROSPERO 2023 CRD42023420362 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023420362

Review question

(1) How does religious coping/spirituality influence acculturation and (2) How do these impact psychological wellbeing?

Searches

Databases: PsycINFO, PubMed, MEDLINE, CINAHL, Embase and Scopus.

Inclusion criteria:

- Studies from 1980 onwards – since Berry's model of acculturation was formulated (1980)
- Both quantitative and qualitative study designs
- Studies published in English, French and Spanish – three languages spoken by trainee
- Studies that have Berry's acculturation model as their theoretical framework

Exclusion criteria:

- Studies related to physical health or health psychology or health psychology
- Studies where the sample is second-generation migrants (born in country)

Feasibility: Approximate number of papers in the scoping search using keywords in PsycINFO: 234 (as of March 2023)

Search strategy

https://www.crd.york.ac.uk/PROSPEROFILES/420362_STRATEGY_20230421.pdf

Types of study to be included

Inclusion criteria: Both qualitative and quantitative

Exclusion criteria: Studies related to physical health or health psychology or health psychology

Condition or domain being studied

The aim is to systematically review the literature regarding spirituality and religious coping in the context of acculturation and acculturative stress in migrant populations, and its impact on psychological wellbeing.

Participants/population

Individuals that have undergone the process of acculturation, that is, who have moved from one culture to the another – during migration, for example.

Exclusion criteria: studies where the sample is second-generation migrants (born in country)

Intervention(s), exposure(s)

Inclusion criteria:

- Reporting religious belief
- Reporting having undergone acculturation processes

Comparator(s)/control

Not relevant for this review, but where pertinent: individuals reporting no religious belief.

Context

The rationale for exploring acculturation and religious coping together stems from the fact that the theoretical model underpinning both of these concepts is the stress and coping framework developed by Lazarus & Folkman (1984) in their Transactional Model of Stress. The stress and coping outcomes relate to the achievement of psychological adaptation, including psychological and emotional wellbeing (Searle & Ward, 1990; Ward & Szabo, 2019).

Some studies have begun to look at the relationship between religious coping and the impact on acculturative stress after migration (Sanchez et al, 2012). However, the limited amount of research on religious coping and acculturative stress means that this review will include research that looks at the multiple dimensions of religiosity (see Nguyen, 2020) and its impact on psychological wellbeing and mental health in individuals who have undergone acculturation.

Main outcome(s)

There is an increasing body of literature highlighting the role of religious belief/spirituality and acculturative processes, how they may affect the perception of mental illness, and how it is managed. However, it is not often taken into account in mental health service provision and, in the last few years, there has been a greater emphasis on the development of more holistic approaches that integrate mental health, physical health, culture and belief.

The main outcomes to be reviewed will be: (1) differences in acculturation strategy/orientation (i.e. integration, assimilation, separation or marginalisation) depending on religious belief/spirituality and (2) differences in psychological well-being (described as common mental health disorder symptoms like depression and anxiety and psychological adjustment) depending on religious belief/spirituality in individuals that have undergone acculturation (i.e. migrants).

Measures of effect

Not applicable, as it will include qualitative studies.

Additional outcome(s)

None

Data extraction (selection and coding)

Papers will be exported to EndNote and duplicates removed. Titles and abstracts will be scanned based on the inclusion criteria. Full text-screening will be used for potentially eligible papers. Reference lists of relevant studies will also be searched. An additional researcher will review and appraise 30% of the included papers and screen 25% of the full-text records selected to ensure inter-rater reliability

Records will be managed through EndNote; specific software for managing bibliographies, which also allows to remove duplicates.

Selection process: The main reviewers (AP) will search information sources independently and assess identified studies for inclusion, facilitated by grading each eligibility criterion as eligible/not eligible/might be eligible (van Tulder et al, 2003). The full text of a study will be reviewed and the study considered potentially relevant when it cannot be clearly excluded on the basis of its Title and Abstract (CRD, 2009) following discussion between the two independent reviewers. Full text will be obtained for abstracts with insufficient information or in a situation of disagreement.

The second reviewer (HW) will review and appraise 30% of the identified studies in the same way, unless inter-rater reliability's Cohen's kappa > .81 isn't reached, in which case more papers will be reviewed until the inter-rater reliability coefficient is reached.

A study will be included when both reviewers independently assess it as satisfying the inclusion criteria from the full text.

Data collection process: Using a standardised form, the main reviewer (AP) will extract the data independently and the second reviewer (HW) will screen 25% of the papers following the same process as explained above in the selection process.

Data items: Data extracted will include the following summary data: sample characteristics, sample size and outcomes (as specified in Q26).

Risk of bias (quality) assessment

The Standard Quality Assessment Criteria for evaluating primary research papers (Kmet et al., 2004) will be used to evaluate the quality of all papers included in the review.

Strategy for data synthesis

It is unlikely that a meta-analysis will be possible based on findings of scoping search although a narrative synthesis to allow where possible grouping of results based on acculturation strategy, religious belief/spirituality and mental health outcome.

Data from relevant studies will be extracted systematically and presented in table format to allow for semi qualitative comparison of: study sample, sample characteristics, religious belief, acculturation strategy and mental health outcomes. The results will be grouped according to outcome to evaluate across studies.

Authors will be contacted to request either raw data or additional data to those reported. All results will be reported in the context of overall study quality.

Analysis of subgroups or subsets

Not applicable

Contact details for further information

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Organisational affiliation of the review

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Review team members and their organisational affiliations

Anais Philippe. Oxford Institute of Clinical Psychology Training and Research, University of Oxford
Dr Reena Vohora. Oxford Institute of Clinical Psychology Training and Research
Dr Rashmi Shankar. Berkshire Healthcare NHS Foundation Trust

Type and method of review

Narrative synthesis, Systematic review

Anticipated or actual start date

01 January 2024

Anticipated completion date

31 October 2024

Funding sources/sponsors

No funding needed. Systematic Review carried out as part of the doctorate training requirements. The training is currently funded by the Oxford Health NHS Foundation Trust.

Grant number(s)

Not applicable

Conflicts of interest

None

Language

English

Country

England

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Acculturation; Adaptation, Psychological; Humans; Spirituality

Date of registration in PROSPERO

09 May 2023

Date of first submission

21 April 2023

Stage of review at time of this submission

The review has not started

Stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Revision note

Change in researcher/collaborators.

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

09 May 2023 & 23 June 2023

Appendix 3: SRL Query String of Search Terms

Key words used for each database searched

Note that database-specific thesaurus terms were added to the search for each database.

(acculturati* OR Integrate* OR Integration OR bicultural* OR marginali* OR assimilat* OR “acculturative stress” OR Separation OR "Culture Change" OR Multicultural* OR "Cross Cultural Psychology" OR "Cultural Sensitivity")

AND

("Religious coping" OR spiritual* OR "religious belie*" OR religi* OR faith* OR Buddhi* OR Christian* OR Hindu* OR Jew* OR Mormon* OR Muslim* OR Sikh* OR Catholic* OR Islam* OR Moslems OR Protestant* OR Judaism)

AND

(migrant* OR refugee* OR “asylum seeker*” OR immigrant* OR “Displaced People”)

AND

("mental health" OR "emotional adjustment" OR "personal adjustment" OR "psychological adjustment" OR "coping behaviour" OR "stress and coping measures" OR "resilience (psychological) " OR "adjustment disorders" OR "emotional disturbances" OR "emotional processing" OR "negative emotions" OR Anger OR Anxiet* OR Anxious OR Worry OR Worries OR "anxiety disorders" OR "posttraumatic stress" OR Panic OR Stress* OR PTSD OR "post traumatic stress disorder" OR Trauma OR Traumatic OR "shell shock" OR phobia* OR bereavement OR grief OR Depress* OR guilt OR homesickness OR hopelessness OR loneliness OR demoralization OR pessimism OR sad* OR shame OR suffering OR "subjective well being" OR "well being" OR wellbeing OR Emotion* OR Stress* OR "serious mental illness").

Appendix 4: SRL Narrative Synthesis Supplemental Material

Synthesis without meta-analysis (SWiM) guidance by Campbell et al. (2020). The following items are intended to be used as an extension of PRISMA:

SWiM reporting item	Item description
Methods	
1 Grouping studies for synthesis	1a) Provide a description of, and rationale for, the groups used in the synthesis (eg, groupings of populations, interventions, outcomes, study design)
	1b) Detail and provide rationale for any changes made subsequent to the protocol in the groups used in the synthesis
2 Describe the standardised metric and transformation methods used	Describe the standardised metric for each outcome. Explain why the metric(s) was chosen and describe any methods used to transform the intervention effects, as reported in the study, to the standardised metric, citing any methodological guidance consulted
3 Describe the synthesis methods	Describe and justify the methods used to synthesise the effects for each outcome when it was not possible to undertake a meta-analysis of effect estimates
4 Criteria used to prioritise results for summary and synthesis	Where applicable, provide the criteria used, with supporting justification, to select the particular studies, or a particular study, for the main synthesis or to draw conclusions from the synthesis (eg, based on study design, risk of bias assessments, directness in relation to the review question)
5 Investigation of heterogeneity in reported effects	State the method(s) used to examine heterogeneity in reported effects when it was not possible to undertake a meta-analysis of effect estimates and its extensions to investigate heterogeneity
6 Certainty of evidence	Describe the methods used to assess the certainty of the synthesis findings
7 Data presentation methods	Describe the graphical and tabular methods used to present the effects (eg, tables, forest plots, harvest plots)
	Specify key study characteristics (eg, study design, risk of bias) used to order the studies, in the text and any tables or graphs, clearly referencing the studies included
Results	
8 Reporting results	For each comparison and outcome, provide a description of the synthesised findings and the certainty of the findings. Describe the result in language that is consistent with the question the synthesis addresses, and indicate which studies contribute to the synthesis
Discussion	
9 Limitations of the synthesis	Report the limitations of the synthesis methods used and/or the groupings used in the synthesis and how these affect the conclusions that can be drawn in relation to the original review question

Additionally, guidance by Popay et al. (2020) was followed for the synthesis:

1. *Developing a theoretical model of how the interventions work, why and for whom*: in this case, no intervention effectiveness was assessed, but rather, how the variables of interest interacted with one another.
2. *Developing a preliminary synthesis*: which included textual descriptions of studies, as well as groupings and clusters based on the dimensions of the variables measured in the studies, or sample or statistical analysed used. This was aimed at finding common themes and ways of measuring each variable that were common in the literature.
3. *Exploring relationships in the data*: conceptual models about what was being measured in each study in relation to each variable were developed. The basic idea underpinning the development of conceptual models was to group findings that may be empirically or conceptually similar, as well as to identify relationships between these groupings. In the current review, assigning a category to each variable measured in each study provided a useful framework from which to draw relationships in the data.
4. *Assessing the robustness of the synthesis product*: the quality assessment tool was used to determine the strength of evidence included in the synthesis. Additionally, a critical reflection on the synthesis process was included in the discussion section, which especially focused on the clinical implications of the evidence synthesised.

Appendix 5: SIP Lay Summary

Lay summary of results for dissemination which was shared with the OHHI, participants and organisations working with PEH.

Service Improvement Project *Report*



Access to NHS Mental Health Services for People Experiencing Homelessness: Third Sector Perspectives

A project for the Oxfordshire Health & Homelessness Inclusion Team (OHHI)

A significant proportion of the front-line care work for people experiencing homelessness (PEH) is carried out by charitable or third sector organisations, who often face challenges in helping their service users accessing NHS services. Overall, PEH report poorer diagnoses and greater barriers to healthcare needed, which often results in higher use of emergency services.

This service improvement project aimed to understand the perceived barriers to accessing NHS mental health services by third sector organisations that support PEH and to make recommendations to facilitate the collaboration between the OHHI and third sector organisations.

Barriers to accessing NHS Mental Health Services

Interviews with managers and team leaders in various Oxfordshire-based charities working with PEH were conducted. The data was analysed through a technique called thematic analysis, which identified four broad themes:

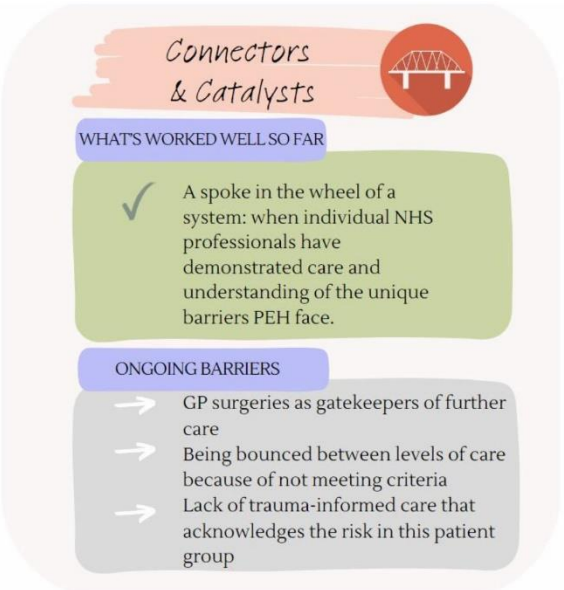
Theme	Description	Third Sector Staff Roles
1. Chaotic and disengaged: third sector's experience supporting PEH	Third sector staff experiences when supporting PEH accessing NHS mental health services based on how their service users present	Advocates: Advocating on behalf of PEH when trying to access mental health services.

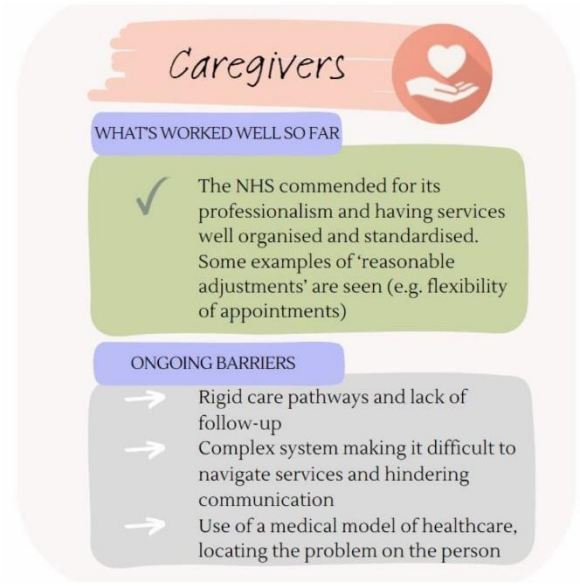
2. From pillar to post: NHS service provision	What services are available in the NHS which do not meet the needs of PEH.	Connectors and Catalysts: Acting as a bridge between PEH and NHS services, facilitating access to existing services .
3. Rigid and removed: Perceptions of the NHS	How the third sector staff perceive NHS mental health services are being delivered which do not meet the needs of PEH.	Caregivers: Front-line support workers, first point of call.
4. Inexpert yet on the hook: how the third sector feels perceived by the NHS	How the third sector staff supporting PEH feel perceived by NHS in their interactions with the mental health services.	Mediators: Standing between NHS services and PEH to facilitate communication and understanding

Positives & Ongoing Barriers

Positive aspects of the existing joint work with the OHHI were highlighted, and ongoing barriers to accessing mental health services more widely in the NHS locally were identified.









Recommendations

The positives and ongoing barriers detailed above form the basis for the service recommendations suggested to the OHHI. In the same way that third sector organisations described themselves as being advocates, connectors, caregivers and mediators between their service users and statutory services, we suggest that the OHHI should also adopt those roles in relation to being advocates, connectors/catalysts, caregivers and mediators between third sector organisations and the rest of the NHS services they represent.

The OHHI's role	Recommendations
1. Advocates  On behalf of the third sector within the wider NHS.	- Provide a psychologically- and trauma-informed lens to the rest of professionals, tailored to the particular needs and complexities of this service user group. - Advocate for a bespoke approach to care for PEH in other NHS services - If providing mental health support to PEH, endeavour for it to be consistent, persistent and embedded in the community.

2. Connectors & Catalysts  Between the third sector and the wider NHS	- The OHHI should continue acting as a bridge between Third Sector organisations and wider NHS services, noting gaps in the service provision of mental health care, and voicing them to the wider organisation. - Clinicians should be made aware of the statutory mental health services available widely and assist third sector organisations in advising a referral. - The OHHI should continue working in partnership with primary care services such as GP Practices (as it has been doing with Luther Street Medical Centre) and develop further partnerships with other GP practices in Oxfordshire (e.g. Cowley, Banbury, Bicester...). - Networking within the NHS is advised in order to raise awareness of the existence of the OHHI.
3. Caregivers  Providing care to PEH alongside third sector organisations and to third sector staff.	- Continue providing assertive outreach (e.g. joining in outreach rounds with third sector staff) to help with signposting based on individuals' health needs, and to continue requesting for wider medical and nursing staff to support in the process - Consider having clinical staff more closely involved in and support the discharge process from inpatient services back into the community to ensure a more accurate assessment of the ongoing psychological needs of individuals (e.g. attending psychiatry ward rounds of PEH). - The OHHI should also consider providing staff support to third sector organisation after critical incidents. - Clinicians should also identify areas of need for further mental health capacitation within the third sector organisations they work with. This could inform the provision of relevant Continued Professional Development (CPD) for third sector staff. - Continue promoting the role of the OHHI to other NHS services.

4. Mediators  Between wider NHS services and third sector organisations providing support to PEH.	- The OHHI should strive to work in close collaboration with third sector organisations through regular visits to their sites and being available for one-off consultations with staff. - Clinicians in the OHHI should take the lead in calling multi-agency meetings when required. It might make it more likely for other NHS clinicians involved to attend and will facilitate third sector staff's voices to be heard. Chairing multi-agency meetings by bringing the PEH in can act as a role-model to other professionals. - Although often convenient, online meetings prevent informal sharing of information and co-workers getting to know each other. The team should strive to create spaces for interaction between agencies as well as being present in third sector events.

For more information or to request the full report contact
Anais Philippe (anais.philippe@hmc.ox.ac.uk)

Appendix 6: SIP Focus Group Plan

Theme: Access to statutory mental health provision for homeless service users: third sector perspectives

Objectives:

1. To gather data
2. Thematic analysis of the data
3. Design interview questions based on themes identified in the focus group

Details:

- *Date*: potentially Friday 9th June 1-3pm
- *Venue*: TBD but potentially Luther Street Medical Centre's meeting room or Isis.
- *Material needed*: Oxford Health laptop to record, consent forms and information sheets for each participant and pens.

Selection of participants:

Support workers at Homeless Oxfordshire, St Mungo's and Connection Support will be contacted by email with an invitation to participate in the focus group. 8-10 participants will be selected to ensure an equal distribution of staff from each organisation.

Plan

Layout: chairs will be positioned to form a circle around a table. The researcher will also be part of the circle.

Introduction:

1. Thank participants for their involvement in the research
2. Explain confidentiality, summarise information sheet which will have been distributed prior to the focus group. Ensure consent forms have been signed by all participants before proceeding.
3. Explain the focus group aims:
    a. This focus group is part of the research carried out for a Service Improvement Project (SIP), whose aim is to understand perceived barriers to accessing statutory mental health services (NHS Services) by third sector organisations in Oxfordshire who

provide support to people experiencing homelessness. The hope is to make recommendations to the Oxfordshire Health & Homelessness Inclusion Team (OHHI), an NHS team, based on these findings in order to facilitate collaboration with the third sector with regards to accessing statutory mental health services by the homeless community.

b. It is important to hear everyone's voices and opinions. There is no right or wrong answers.

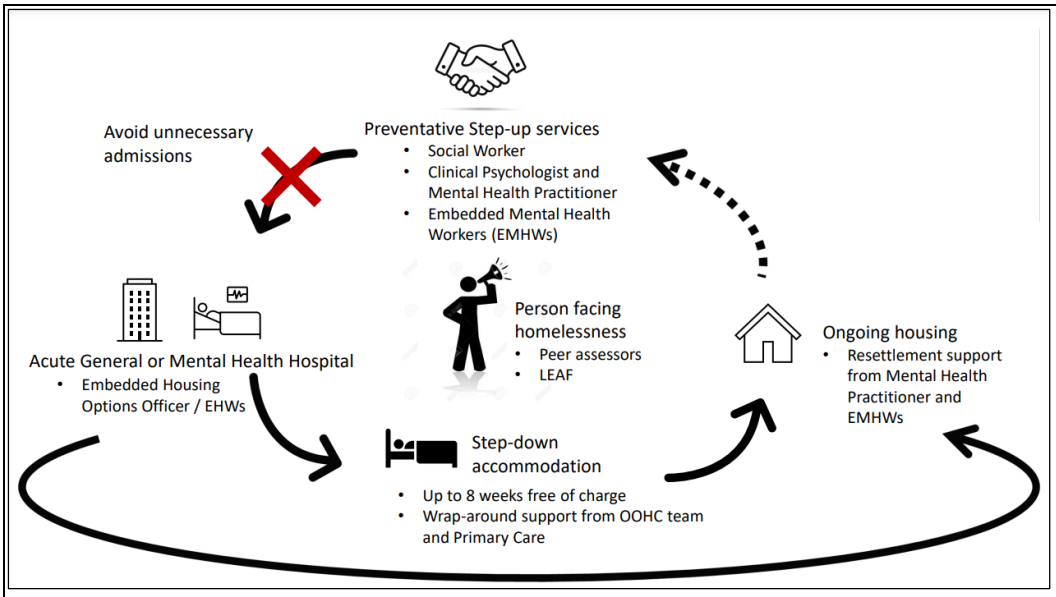
c. Because the recording will be transcribed in order to be analysed, it is important that only one person speaks at a time and that parallel conversations don't take place.

d. The duration of the focus group will be of one hour.

e. As an icebreaker, ask each participant to introduce themselves, where they work and what's one thing they like about their current job/role.

Checklist of themes to cover:

Theme	
Introduction What are your experiences of working with people experiencing homelessness on accessing statutory mental health services in Oxfordshire? • What has worked well so far?	
Barriers What are the barriers to accessing statutory mental health services? • Primary care (e.g. GP, dentist, pharmacists, etc.) • Secondary care (e.g. AMHT, Specialist services • Emergency care (e.g. A&E, Crisis Support)	
The Oxfordshire Health & Homelessness Inclusion Team (OHHI) The OHHI is a relatively new team (~18 months-old), so it is still at a stage where roles can be further refined and feedback needs to be collected to inform future service development. One of the aims of the OHHI is to facilitate the collaboration between statutory and non-statutory services to provide a more holistic and prevention-focused health care. Show following diagram to explain where the OHHI is seeking to operate:	



Discuss each area: [What has worked well so far? AND Where are the gaps/pitfalls/need for more change?]

1. **Preventative Step-up Services**
2. **Acute General or Mental Health hospital**
3. **Step-down accommodation**
4. **Ongoing housing support**

Where are we not meeting the needs?

What changes may improve timely access to statutory mental health services?

Improving collaboration

What changes may improve the interface between statutory and non-statutory collaboration in the homelessness pathway?

Conclusion: give people the opportunity to add anything else and thank everyone for their participation.

Appendix 7: SIP Semi-Structured Interview Plan

Theme: Access to statutory mental health provision for homeless service users: third sector perspectives

Objectives:

1. To gather data
2. Thematic analysis of the data

Details:

- *Dates*: July-August 2023
- *Venue*: Some will be held on teams, others in person in 3rd sector offices.
- *Material needed*: Oxford Health laptop to record, consent form and information sheets.

Selection of participants:

Managers and coordinators workers at Homeless Oxfordshire, A2Dominion and Connection Support will be contacted by email with an invitation to participate.

Interview Plan

Introduction:

1. Thank participant for their involvement in the research, introduce myself briefly and role within the OHHI.
2. Explain confidentiality, summarise information sheet which will have been distributed in advance. Sign consent form.

Checklist of questions to cover:

Themes / questions	
Introduction What are your experiences of working with people experiencing homelessness on accessing NHS mental health services in Oxfordshire? • What has worked well so far?	
Barriers	

What are the barriers to accessing statutory mental health services? • Primary care (e.g. GP, dentist, pharmacists, etc.) • Secondary care (e.g. AMHT, Specialist services) • Emergency care (e.g. A&E, Crisis Support)	
What are the gaps in mental health service provision for the specific needs of your client group? • *(Further prompt if appropriate)* Medication & Psychological Support • *(Further prompt if appropriate)* Matching needs and service provision (e.g. clustering, thresholds for access…)	
In your experience, what aspects of the statutory services create: • Engagement/trust for your clients • Disengagement/mistrust for your clients	
The Oxfordshire Health & Homelessness Inclusion Team (OHHI) The OHHI is a relatively new team (~18 months-old), so it is still at a stage where roles can be further refined and feedback needs to be collected to inform future service development. One of the aims of the OHHI is to facilitate the collaboration between statutory and non-statutory services to provide a more holistic and prevention-focused health care. **What additional support would you value in these areas?** 1. Increasing prevention services rather than waiting for deterioration/crisis 2. Communication channels and information sharing with NHS services 3. Continuity of care across the board, when clients move from service to service 4. Housing options for your clients based on their needs (risk vs support needed)	
Where are we not meeting the needs? What changes may improve timely access to statutory mental health services?	
Improving collaboration What changes may improve the interface between statutory and non-statutory collaboration in the homelessness pathway?	

Conclusion: give participant the opportunity to add anything else and thank them for their participation. Explain dissemination plans after research completion.

Appendix 8: SIP Thematic Analysis Supplemental Materials

The six-steps process outlined by Braun & Clarke (2019) was conducted:

1. **Familiarisation with the data:** the researcher conducted all the interviews and re-transcribed them all individually, which allowed for a good grasp of the contents of the dataset.
2. **Generation of initial codes:** see images below of how codes were generated visually.
3. **Searching for themes:** codes were grouped into initial potential themes.

1. GPs as the gateway to adequate care of mental health needs
2. Communication issues across organisations and different agencies working to support individuals experiencing homelessness: a. Limited information sharing between NHS and 3rd sector b. NHS uses medical jargon that is not easy to understand by support workers receiving individuals that have been discharged from hospital c. Lack of multi-agency meeting to discuss clients d. Face-to-face informal opportunities to network are limited after covid-19
3. Limited mental health training for those having to deal with high levels of complexity in the 3rd sector: a. Support in administering medication b. Understanding a diagnosis c. Understanding the NHS mental health support options available for the people experiencing homelessness they are working with.
4. 3rd sector staff not feeling valued by NHS staff when trying to advocate for their guests/clients.
5. Lack of options for complex presentations (e.g. dual diagnosis, not being able to access services until drug dependence and alcohol intake reduces…)
6. NHS services operating with a medical model in mind, very institutionalised, not flexible enough

7. Benefits of providing floating support (following the patient across their journey in the services) and having embedded mental health workers who can build trust with homeless people in hostels/supported accommodation

4. **Reviewing themes**: the preliminary themes were organised into broader themes, which fitted into the following themes:
   - **(I)** Experiences of third sector staff when supporting PEH
   - **(II)** NHS service provision for PEH
   - **(III)** How the third sector staff perceive NHS mental health services
   - **(IV)** How the third sector feels perceived by the NHS
5. **Defining and naming themes**: finally, and based on quotes and language used by participants to refer to each theme, the following titles were agreed for the themes:
   - **(I)** Chaotic and disengaged: third sector's experience supporting their service users
   - **(II)** From pillar to post: NHS Service provision
   - **(III)** Rigid and removed: perceptions of the NHS
   - **(IV)** Inexpert yet on the hook: how the third sector feels perceived by NHS

Initial codes generated: thematic analysis visual working sheets which allowed the creation of overarching themes

Barriers to accessing MH services

Intrinsic

Survival strategies = say ≠ things to ≠ professionals [1.10]

Comorbidity + Dual diagnosis [6.13] [7.4] [8.2,3] [1.6]

Trauma [3.8] [7.2]

Drug use [2.2], demanding & challenging [3.1]

Substance [5.2] [7.4] [9.1]

Forensic history [3.3]

Lack of engagement in a strict/rigid env. [3.6] [5.3] [7.5]

COVID-19 impact on homeless [1.14]

MH ↔ paranoia ↔ ↓ engagement [6.12, 7.5,6]

Vulnerabilities to exploitation [2.6] [8.2]

Behaviour issues related to MH that cause eviction [2.6] [3.3] 3.2

Lack of community / support [2.10]

Everchanging challenges / keeping up with what happens. [8.7]

Unnecessary admissions (drug, alcohol-related) [3.4] [1.8] moved - impact on service

~~Forensic~~ Internalised stigma [3.13] [6.7] [7.5

Quiet ones vs. less quiet [1.2]

Ø don't get help disengaged ↳ either too complex

Extrinsic / systemic

Perception of homelessness

- Engagement / chaotic [7.5] [9.6] [1.8] l.c. long WL
- Drug abuse [7.5 med model not liked
- Stigma [2.7] [2.16] [3.7] [6.4] [6.17] [1.2]

Lack of | guidance around drug use - MH [2.2] [1.13] [9.-]
| understanding → what's available

FROM pillar to post: - care [2.8] [4.6] [4.7] [1.5] [1.6]

Waiting lists - not a priority [7.4] [8.7] [1.3]

- Assessments [2.4] [5.3,7] [6.3,14] [9.3]
- Ø meet criteria/threshold [3.5] [3.6] [5.2] [6.8] [7.5,11] [9.4]

Not understanding labels / jargon [4.13] [9.5]

Support ends unexpectedly [2.4] [4.5],7] or isporadic/ [9.8] [3.9] [9.5] [9.11]

when in crisis [2.7] [7.3]

Staff turnover [2.5] in NHS. & short-staffed [2.7] [4.1]

Promised ↔ undelivered [2.6] [8.3] - eg care packs [2.13] [1.16] [7.9] [8.1] [8.12]

Existing outside of system [3.12]

COVID-19 structural changes - network [4.1-2] [6.3] [1-12] 14

Info sharing < (GP...) [4.2]

Phone appt - saying the right thing [1.4]

Experiences

- Sectioned
  - ⊕ Collaborative (Luther St, Psychiatrist, Ø police too involved) [2.3] [5.7,8
    ↳ Ø violence
    If individual is know to them.
  - ⊖ Scared, suffering, discharged too quickly [7.3]
- GP as a key [5.4] [6.5] [1.4] - overstretched, barriers (address) [6.2] 12] [9.3]
- Wait for crisis before offering support [6.5
- Prevalence of MH diagnosis in client group [2.4] but Ø follow-up

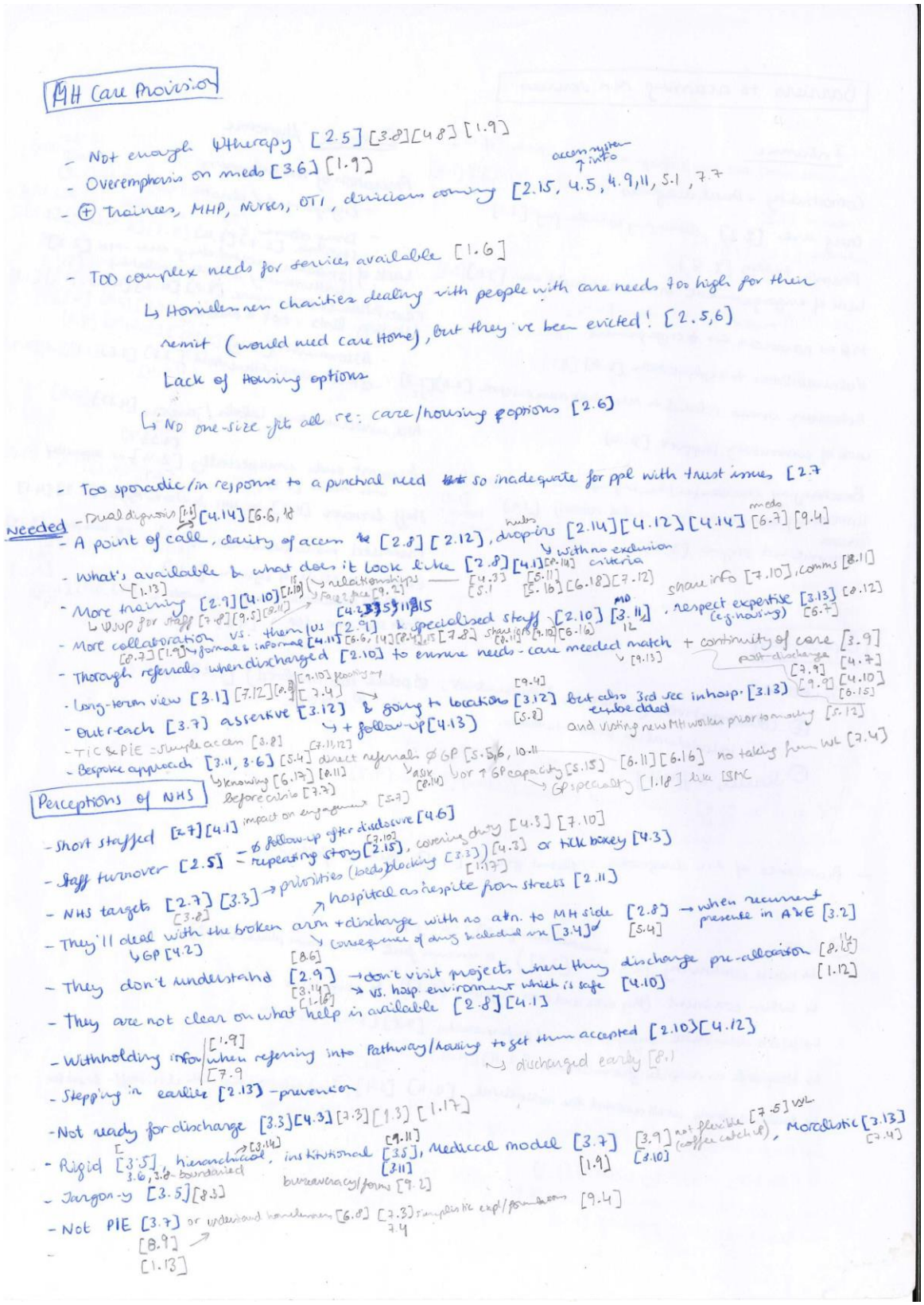
- ⊕ Exp:
  - ↳ When continuity (e.g. CPNs [2.5]), embedded MHW [4.5] [5.4] [5.12] [6.12 a known face in a known place [2.13]
  - ↳ When consistent (try over and over again [2.5]) & persistent
  - ↳ With individual engagement w/ professionals [2.8] [3.6] [7.6] [9.7]
  - ↳ Hospital as respite from streets [2.11] [4.10]
  - ↳ Multi-agency work around the individual [2.11] [3.4] [8.5], good relationship with clin. staff - 3r sector [6.9] ↳ all in one location
  - ↳ Professionalism [3.7] & standardization [3.7]
  - ↳ Flexibility in appt (eg Luther St) [5.6]
  - ↳ Collaborative (all on one side) [5.16] [6.7
  - ↳ Basic help & com engagement [8.10]

3rd Sector role & how they feel perceived

- Un-welcomed (not access, not invited) [8.9-10] [8.4]
- Not important, although housing is part of recovery [3.10]
- Taken seriously only when problems arise (esp. sectioning) [3.12] [5.14] [9.10] [8.4] [8.8] (not believed)
- Not equals [3.13] [6.16] → compared to other statutory services (council), [8.3] → expertise not valued
- Role misunderstood [1.18] – 3rd sec ≠ administer meds, but seen as if [4.7] [8.1]
- Picky, demanding of info [4.12]
- Not high priority [5.13] [6.
- Expecting 3rd sector to provide ongoing MH support/health, despite not their remit [6.11] or info [7.2] or care [8.6] [8.15] [8.3]
- Not taken seriously [1.11] – no one turns to meeting

OOHCT

- Clarify remit & scope [4.5] [5.10] [9.12]
- How to ensure continuity of care? [4.6] [9.13]
- ↑ team building opportunities [4.11], getting to know projects [5.11] [9.13]
- Bigger team [5.9, 16] [8.16] + dual diagnosis expertise [8.16]
- Share expertise [5.10, 9.9
- Facts/report/monitor vs. helping each other with Ψ informed approach [5.10, 18] (↓ emphasis on assessing ↑ knowing!)
- ⊕ multi-agency work [5.12] helps: continued support [8.13]; deal with complexity & make use of expertise [5.16] [8.2]; Quicker + direct [9.1]; earlier access to Assessment, AMHT [7.4] bc of jargon [8.5]
- Outside of Oxford [6.17]
- Fast-paced changes (↓ funding) need to be communicated [9.5]
- Takes time to enfold engagement
- Follow-up beyond initial contact [9.11]
  ↳ because always responding to crisis [9.12]



Note that OOHCT is the old name of the OHHI.

Process of robustness assessment of the thematic analysis results

As the six-steps process was being followed, the researcher utilized the following questions to ensure the robustness of the thematic analysis:

Adapted from *Table 1: A tool for evaluating thematic analysis (TA) manuscripts for publication: Twenty questions to guide assessment of TA research quality* in: Braun, V. & Clarke, V. (2020) One size fits all? What counts as quality practice in (reflexive) thematic analysis?, *Qualitative Research in Psychology*, DOI: 10.1080/14780887.2020.1769238

Adequate choice and explanation of methods and methodology

1. Does the researcher explain why they are using thematic analysis (TA), even if only briefly?
2. Does the researcher clearly specify and justify which *type* of TA they are using?
3. Is the use and justification of the specific type of TA consistent with the research questions or aims?
4. Is there a good 'fit' between the theoretical and conceptual underpinnings of the research and the specific type of TA (i.e. is there conceptual coherence)?
5. Is there a good 'fit' between the methods of data collection and the specific type of TA?
6. Is the specified type of TA consistently enacted throughout the paper?
7. Is there evidence of problematic assumptions about, and practices around, TA? These commonly include:
    - Treating TA as one, homogenous, entity, with one set of – widely agreed on – procedures.
    - Combining philosophically and procedurally incompatible approaches to TA without any acknowledgement or explanation.
    - Confusing summaries of data topics with thematic patterns of shared meaning, underpinned by a core concept.
    - Assuming grounded theory concepts and procedures (e.g. saturation, constant comparative analysis, line-by-line coding) apply to TA without any explanation or justification.
    - Assuming TA is essentialist or realist, or atheoretical.
    - Assuming TA is only a data reduction or descriptive approach and therefore must be supplemented with other methods and procedures to achieve other ends.

8. Are any supplementary procedures or methods justified, and necessary, or could the same results have been achieved simply by using TA more effectively?
9. Are the theoretical underpinnings of the use of TA clearly specified (e.g. ontological, epistemological assumptions, guiding theoretical framework(s)), even when using TA inductively (inductive TA does not equate to analysis in a theoretical vacuum)?
10. Does the researcher strive to 'own their perspectives' (even if only very briefly), their personal and social standpoint and positioning? (This is especially important when the researchers are engaged in social justice-oriented research and when representing the 'voices' of marginal and vulnerable groups, and groups to which the researcher does not belong.)
11. Are the analytic procedures used clearly outlined, and described in terms of what the researcher actually did, rather than generic procedures?
12. Is there evidence of conceptual and procedural confusion? For example, reflexive TA (Braun & Clarke, 2006) is the claimed approach but different procedures are outlined such as the use of a codebook or coding frame, multiple independent coders and consensus coding, inter-rater reliability measures, and/or themes are conceptualised as analytic inputs rather than outputs and therefore the analysis progresses from theme identification to coding (rather than coding to theme development).
13. Does the researcher demonstrate full and coherent understanding of their claimed approach to TA?

A well-developed and justified analysis

14. Is it clear what and where the themes are in the report? Would the manuscript benefit from some kind of overview of the analysis: listing of themes, narrative overview, table of themes, thematic map?
15. Are reported themes topic summaries, rather than 'fully realised themes' – patterns of shared meaning underpinned by a central organising concept?
    - If so, are topic summaries appropriate to the purpose of the research?
        - If the authors are using reflexive TA, is this modification in the conceptualisation of themes explained and justified?
    - Have the data collection questions been used as themes?
    - Would the manuscript benefit from further analysis being undertaken, with the reporting of fully realised themes?

- Or, if the researcher is claiming to use reflexive TA, would the manuscript benefit from claiming to use a different type of TA (e.g. coding reliability or codebook)?

16. Is a non-thematic contextualising information presented as a theme? (e.g. the first theme is a topic summary providing contextualising information, but the rest of the themes reported are fully realised themes). If so, would the manuscript benefit from this being presented as non-thematic contextualising information?
17. In applied research, do the reported themes have the potential to give rise to actionable outcomes?
18. Are there conceptual clashes and confusion in the paper? (e.g. claiming a social constructionist approach while also expressing concern for positivist notions of coding reliability, or claiming a constructionist approach while treating participants' language as a transparent reflection of their experiences and behaviours)
19. Is there evidence of weak or unconvincing analysis such as:
    - Too many or two few themes?
    - Too many theme levels?
    - Confusion between codes and themes?
    - Mismatch between data extracts and analytic claims?
    - Too few or too many data extracts?
    - Overlap between themes?
20. Does the researcher make problematic statements about the lack of generalisability of their results, and or implicitly conceptualise generalisability as statistical probabilistic generalisability?

Appendix 9: SIP Thematic analysis numerical identifiers and selection of quotes

Note: numbers 1 to 9 indicate interviewed participant number, and the numerical identifiers refer to the interview number and page number where theme is present. E.g., 2.6 indicates that the theme was present in the page number 6 of the interview number 2 transcript.

Theme	**Numerical Identifier**								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
I. Chaotic and disengaged: our experience supporting our service users	**X** 1.2 1.6 1.7 1.9 1.10	**X** 2.2 2.6 2.10 2.11	**X** 3.2 3.3 3.4 3.6 3.8 3.13		**X** 5.1 5.2 5.3	**X** 6.7 6.12 6.13	**X** 7.2 7.3 7.4 7.5 7.10	**X** 8.2 8.7	**X** 9.1 9.10
II. From pillar to post: Service Provision	**X** 1.2 1.3 1.4 1.5 1.6 1.8 1.13	**X** 2.4 2.5 2.6	**X** 3.2 3.5 3.6 3.7 3.12	**X** 4.1 4.2 4.5 4.7	**X** 5.2 5.3 5.5 5.7	**X** 6.2 6.3 6.4 6.5 6.8 6.12 6.17	**X** 7.3 7.4 7.5 7.9 7.11	**X** 8.1 8.3 8.7 8.12	**X** 9.3 9.4 9.5 9.6 9.8 9.11
III. Rigid and removed: Our perceptions of the NHS	**X** 1.4 1.9 1.11 1.13 1.17	**X** 2.4 2.7 2.8 2.9 2.13	**X** 3.2 3.3 3.6 3.7 3.8 3.9 3.12 3.14	**X** 4.1 4.2 4.3 4.6 4.13	**X** 5.4 5.7	**X** 6.5	**X** 7.3 7.4 7.5 7.8 7.9 7.10	**X** 8.1 8.3 8.6 8.9 8.14	**X** 9.2 9.4 9.5 9.6
IV. Inexpert yet on the hook: NHS perceptions of us	**X** 1.11 1.16 1.18		**X** 3.9 3.10 3.12	**X** 4.7 4.12	**X** 5.13 5.14	**X** 6.11 6.16	**X** 7.2	**X** 8.1 8.3 8.4 8.6 8.8 8.15	**X** 9.10

Theme	**Selection of Quotes**
I. Chaotic and disengaged: our experience supporting our service users	*"It can take a long time for someone to trust a professional anyway, especially when they've been let down previously. And then when things keep changing and different individuals like it's even as like someone who lives a very different lifestyle is like these clients seeing loads of different people, it's like, Oh my God, I don't wanna keep telling my story to so many people. So for them it must be like traumatising having to keep seeing different people and like having to open up when actually that's such difficult thing for them to do." [7.10]* *"One of the negatives about it is I do find that our clients are quite often too complex, which I just I don't really know what to do with that then because yeah, I you know a bit*

	more complex needs. I understand it's based mostly on engagement. And you've got to be willing to engage for them to then carry on your referral" [5.1] *"I think it's just like the lack of support potentially out there or like that they feel judged, is what a lot of the clients say they feel judged for having an addiction or for their current lifestyle. So, then they feel like they won't get the right support because they're very quickly told about their substance misuse rather than it being focused on their mental health." [7.5]* *"And I think people's mood and their mental health can change so much and vary from one day to the next that because the process of seeing GP takes so long and quite often then don't go to the appointment once it's booked or you know or or don't want to spend every morning trying to get an appointment, so they give up." [5.3]* *"People end up having internalized their sense of their low self-esteem and their sense of worth. And people then don't feel that they're entitled to the same kind of uh, support as other people because of their lifestyle, because of their, you know, like you say, the marginalisation, the rejection from society, so I'm not sure services do enough to challenge that." [3.13]* *"I think rough sleepers think that they're not liked as a person because they're rough sleeping. They're not seen as everybody else that goes to a GP, they're in a different sort of league." [6.7]*
II. From pillar to post: Service Provision	*"And then I suppose maybe it surprises me that so much is needed through the GP if there are other services that then the GP can refer to. Why can't there be more direct referrals so that we support the GPs and get the people that you know the services that they need sooner?" [5.5]* *"You know, like that's having a point of call. Sometimes it's all a bit hazy: who we should phone for this and who we should phone for that. And then when you do phone you're passed from pillar to post, sometimes and don't ever actually get any answers." [2.8]* *"GPs don't have time these days, so, you know this is it's very rare. You'll get GP that will follow on a case. Usually we get we have a door shut and says that you know he needs mental health services involvement, yeah." [6.3]* *"I suppose we're looking at quite extreme behaviours and quite extreme cases, so we're not dealing with what I would say would be the main sort of profile and people who are picked up by AMHT some of our people don't want to engage with AMHT. And that obviously means that engagement is a lot less likely to happen. AMHT take a view that unless somebody wants to engage with them, then they're interventions aren't going to be successful. So we have a number of people that we work with that to be honest, we feel aren't really being supported by AMHT because they're not fitting into the criteria that the AMHT want put into." [3.5]* *"I would say it's: you're either in or you're out. Sort of thing. There's to my knowledge anyway, that doesn't seem to be a as much of a gradual approach." [9.4]* *"I say quite a few times to people when they send me their assessments and things and I and I said, but that's that was three months ago. And so much can change in three months and actually if we now have to spend another four weeks getting a GP appointment so that we can try and get you know that it. Yeah, I just think it could be more direct." [5.7]* *"As we all know, that's happening down or up and down, medicated or not, it's still up and down. So yeah, that's where I have learned about mental health. It's very unpredictable and it's never… it can be stable for maybe short periods, it's never stable." [8.7]* *"And then we've got no options to move them on to, because either they're too mentally unwell, they're too much of a risk and it's like there should be services and professionals*

	out there that can manage these risks which are going to be best suited for the client because they're going to get the support that they need." [7.11]
III. Rigid and removed: Our perceptions of the NHS	*"So when you're talking about peoples engagement with services: that's where I feel the rigidity is. Sometimes it's, you know, we're going to offer you A, B and C, if you don't want any of those, then you can go away and then we'll we will record that we've offered you A, B and C but and that seems to be accepted. See I don't think that's good enough for myself and I much prefer that sort of initiative, approach and flexibility and creativity in that. But I'm afraid I think that gets yes, and I think that gets kind of squashed out of people. But if you're looking at our clients, they're not going to be interested in meeting that criteria or that criteria. They just want what they want and so often they're reports or their opinions of their service the, the service they've received, the quite negative because of that." [3.6]* *"If it's, just starting to open up to a service and they are engaging or don't make accommodations, then they lose trust in the whole process completely and then for a worker, you're less likely to push it for someone, if you don't think they're going to fit, or they're going to think they're open to engage. What's the point of referring if this is going to be cropped?" [9.6]* *"How can we make sure this happens rather than just removing them and go back to square one? Umm yeah, I think maybe just a little bit more flexibility with certain clientele." [7.4]* *"Especially the clients amongst adult homeless pathway sometimes it can take you 2, 3 or 4 attempts to get a client to go somewhere. And I think it's sometimes a very quickly to take them off the waiting list cause they haven't turned up once and I understand that there is a massive waiting list and a lot of people need mental health support, completely understand that. But like, maybe not being so quick to remove them. And offer them another appointment, or like maybe reaching out and like wondering like why is this person not attending?" [7.4]* *"So my whole thing is about just looking at the slight rigidity of old systems and questioning whether we need to carry on with them. I might be a bit blue sky thinking about but you have to be at some point don't you? I'm amazed that there still is this kind of hierarchy within mental health teams and that you still have this consultant psychiatrist at that I just think in years to come, you know who's the consultant psychiatrist? Their value could be seen as like the sort of shamanistic or something like that. Because in the end that that knowledge that they have becomes less and less valuable because it's based on this one idea about what wellness is in terms of a mental health model." [3.14]* *"Again, it comes down to that flexibility. But of course, when you go and see somebody in their office with nothing on the walls because it's a clinical office, it wants to go to that, you know, in what way does that support wellbeing or wellness? To me, it just underlines the opposite of it just emphasizes that you're in this place where you don't want to be because there's something happening to you that shouldn't be happening to you. It feels kind of like it reinforces negative ideas. A lot of the time, but again, again, the medical model does that because it looks to find those kind of characteristics, if you like those kind of behaviours." [3.7]* *"I suppose it, it could well be the overemphasis on medication on limited, uh, limited treatment options. Services that aren't bespoke enough that aren't personalized enough because I think that leads to this kind of impression that there isn't actually going to be a great outcome lot of the time for people." [3.6]* *"So if you if you look like through a lot of our clients' notes and the referrals, most of our clients on referrals it also they've got mental health issues of some sort or another and some of coming in with diagnosis. And we and we talking about yesterday that so they've got a lot of them have got these diagnosis but who's following up? Who's checking that they're doing OK? If it's not with Luther St, who is the psychiatrist that will come?" [2.4]*

	"I wonder sometimes whether we acknowledge that enough and we perhaps should be looking at providing easier access to counselling and some sort of therapeutic interventions for people. Again, I know they exist within the NHS, but whenever we hear about them, it's always very vague about who does what where, how do you refer when it happens, and all the rest of it." [3.8] *"Yeah, some mental health service just to see that can oversee and sign post if needed any issues regarding mental health, if they've got letters and they don't understand them, and that's then having an impact on their mental health because they're anxiety is rising." [4.13]* *"I think I understand confidentiality and stuff, but I think when where we're supporting residents here, I think it's always good for like professionals to be kept up to date and as long as there's a consent share in place and stuff, I think information should be like communicated freely between GP, professional mental health and such, and the support area." [7.8]*
IV. Inexpert yet on the hook: NHS perceptions of us	*"Our intervention is limited because first of all we don't do personal care and so at the moment we've got quite a few people here with severe mental health difficulties and a couple of them have got care packages, are they working? No, not really. Because their needs are much higher, I mean what we're doing for them is, but we're trying to engage with them, we're trying to support them, but then their basic fundamental needs are being met here, so one is they've got a roof over their head, they have a bed to sleep in and they are getting fed. These are the fundamental things that we can offer, but when you look at the client group that we're dealing with, they need so much more. They need much more mental health intervention, probably counselling with a lot of them." [8.1]* *"Come and see what it really is about and what we actually provide here like that we really can't put our hands on their medication. We don't, we're not even allowed because we're not a care home, so we're not allowed to even encourage people to have their medication. Yeah, that medication side of things is their responsibility. That's stepping outside of our remit. It's inhumane, but it is the reality of this job." [8.15]* *"We have a lot of information and when the referral, when the referral comes through, if there is any information that I'm missing, or the staff have questions and then they do go back to the referrer and say thank you for the referral, we just have some follow up questions and then ask for those and we don't always get it. And the embedded and the housing officers may feel that that we're being too picky or we're asking too many questions and they can come back with: I haven't got time for this." [4.12]*

Appendix 10: TDRP Ethical Approval

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
Research Services, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB
Tel: +44(0)1865 616575
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Dr Myra Cooper & Anais Philippe
Oxford Institute of Clinical Psychology Training & Research (OXICPT)
Isis Education Centre
Warneford Hospital
Oxford

30 January 2024

Dear Dr Cooper and Anais,

Research Ethics Approval - CUREC 1

Ethics Approval Reference: R90680/RE001

Study title: Negative appraisals and cognitive processing of traumatic events in individuals having undergone acculturation

Short title: Cognitive processing of stressful live events in individuals having migrated to the UK

The above application has been considered on behalf of the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and approval has been granted from **30th January 2024** until **29th July 2025.**

Insurance-provided indemnity arrangements are in place for the duration of the approval stated above. It is your responsibility to ensure that you request an extension to the end date for indemnity to remain in place should you continue the research beyond the dates covered.

Amendments

Should there be any subsequent changes to the study, you should submit details to the MS IDREC for consideration and approval. Details of changes must be listed on an amendment form.

Yours Sincerely

DocuSigned by:
Leah Butts
9F14889D2BC549A...

Mrs Leah Butts
Research Ethics Administrator

for
Dr Helen Barnby-Porritt
Research Ethics Manager

Appendix 11: TDRP Supplemental Materials – Additional Methods: Measures

Acculturation

The acculturation scales by Demes and Geeraert (2014) consist of 4 Likert-type subscales measuring: acculturation orientation (*Brief Acculturation Orientation Scale, BAOS*), psychological adaptation (*Brief Psychological Adaptation Scale, BPAS*), sociocultural adaptation (*Brief Sociocultural Adaptation Scale, BSAS*) and perceived cultural distance (*Brief Perceived Cultural Distance Scale, BPCDS*). All scales showed good internal consistency, reliability and structural equivalence when translated into nine different languages in two migrant samples to the UK (Demes & Geeraert, 2014).

In the *BAOS (Brief Acculturation Orientation Scale),* participants rate their agreement with 4 statements such as "It is important for me to have [home country] friends", on a 7-point Likert-type scale, from 1 = strongly disagree to 7 = strongly agree. These four items are presented twice, once for the home country and again for the hosting country. *Home* and *host orientation* can be independently established on continuous scales and determine the acculturation orientation bi-dimensionally.

The *BPAS (Brief Psychological Adaptation Scale)* consists of 10 items including positive and negative feelings related to home and host country. Participants are asked to "Think about living in [host country]. In the last 2 weeks, how often have you felt…" on a scale from 1 = never to 7 = always. In line with the authors' suggestion, two of the items were removed for a better scale reliability score (Demes & Geeraert, 2014).

The *BSAS (Brief Sociocultural Adaptation Scale)* is a 12-item subscale where participants are asked to "Think about living in [host country]. How easy or difficult is it for you to adapt to…" and rate the 12 items on a 7-point Likert-type scale from 1 = very difficult to 7 = very easy.

Finally, in the *BPCDS (Brief Perceived Cultural Distance Scale)* participants are asked to "Think about [home country] and [host country]. In your opinion, how different or similar are these two countries in terms of…" and then rate the same 12 items from the *BSAS* on a scale from 1 = very similar to 7 = very different. For the analysis, the *BPCDS* was reversed (*RevBPCDS*) so as to match the direction of the other subscales whereby

higher scores correlate with higher wellbeing and acculturation, as shown in the literature (ibid).

The overall acculturation measure with all subscales showed an acceptable internal reliability in this study (Cronbach's alpha 0.784). The internal reliability of the BAOS was acceptable (Cronbach's alpha 0.704); the BPAS's was good (Cronbach's alpha 0.840); the BSAS's was good (Cronbach's alpha 0.871); and the BPCDS's was good (Cronbach's alpha 0.877).

Post-Traumatic Negative Cognitions

The *Post Traumatic Cognitions Inventory (PTCI;* Foa et al., 1999) is a 36-item questionnaire where participants rate from 1-7 (totally disagree-totally agree) statements on three subscales: negative cognitions about self (private self-appraisals); Negative cognitions about world; and self-blame. A shortened 20-item version was used (Ehlers et al., 2014), which was supplied by the developers of the initial scale, and is used in clinical settings. The PTCI showed excellent internal reliability in this study (Cronbach's alpha 0.937). The three subscales have shown excellent internal consistency and good test-retest reliability in the literature, and correlated with measures of PTSD severity, depression, and general anxiety, discriminating well between individuals with and without PTSD (Foa et al., 1999).

The *Public and Communal Self-Appraisal Measure (PCSAM;* Engelbrecht & Jobson, 2014) is a 21-item questionnaire assessing public and communal aspects of trauma-associated appraisals, divided into three subscales: challenges to beliefs & belonging (items 1-6); communal self or communal self-appraisals (items 7-14); and public self-appraisals (items 15-21). The PCSAM showed excellent internal reliability in this study (Cronbach's alpha 0.945) and has shown good internal consistency, test-retest reliability, convergent and discriminative validities (Engelbrecht & Jobson, 2014).

Mental Health Outcomes

PTSD symptom severity was measured with the *PTSD Checklist for DSM-5 (PCL-5)*, which consists of a 20-item self-report measure assessing the 20 symptoms of PTSD as described in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V; American Psychiatric Association (APA), 2013). It can be used to screen

individuals for PTSD (Blevins et al., 2015; Weathers et al., 2013). The PCL-5 showed excellent internal reliability in this study (Cronbach's alpha 0.950). Evidence available in the literature shows that PCL-5 scores exhibits strong internal consistency, test-retest reliability, and convergent and discriminant validity (Blevins et al., 2015), indicating that the PCL-5 is a psychometrically sound measure of PTSD symptoms.

Depression symptoms were assessed with the *Patient Health Questionnaire 8* (*PHQ-8*), the 8-item version of the PHQ-9 (Kroenke et al., 2001) based on the DSM-IV (APA, 1994) criteria for depression excluding the item about risk. It is used as a tentative diagnosis of depression in at-risk populations and to monitor severity of depression and response to treatments (Kroenke et al., 2001). The PHQ-8 showed good internal reliability in this study (Cronbach's alpha 0.878), and existing literature report it as a reliable and valid measure of depression severity in the general population (Kroenke et al., 2001, 2009).

General anxiety symptoms were measured with the *General Anxiety Disorder 7 (GAD-7;* Spitzer et al., 2006), a 7-item anxiety scale initially developed for assessing generalised anxiety disorder and found to perform well as a screening tool for other anxiety disorders such as PTSD (Kroenke et al., 2007). The GAD-7 showed good internal reliability in this study (Cronbach's alpha 0.893).

Control Variables

Exposure to traumatic events was measured with the *Life Events Checklist for DSM-5* (*LEC-5*; Gray et al., 2004). The LEC-5 is a self-reported measure assessing exposure to 16 events known to potentially result in PTSD or distress as well as one additional item assessing any other extraordinarily stressful event not captured in the first 15 items. The total is calculated by adding the total exposure scores (events marked as 'it happened to me', 'I witnessed it' and 'I learned about it'). This method of scoring has been reported to be the most reliable (Weis et al., 2022). An additional question was included to specify if the event happened before, during and/or after migration to the UK.

Appendix 12: TDRP Additional Methods – Questionnaire Items

Acculturation

Acculturation Orientation (BAOS Home & Host; Demes & Geeraert, 2014))

Rate how much you agree with the following statements:

	1 Strongly disagree	2 Disagree	3 Somewh at disagree	4 Neither agree nor disagree	5 Somewh at agree	6 Agree	7 Strongly agree
1. I have [home country] friends							
2. I take part in [my home country] traditions							
3. I hold on to my [my home country] characteristics							
4. I do things the way [my home country] people do							
5. I have British friends							
6. I take part in British traditions							
7. I develop my British characteristics							
8. I do things the way British people do							

Brief Psychological Adaptation Scale (BPAS; Demes & Geeraert, 2014)

Think about living in the UK. In the last 2 weeks, how often have you felt…

	1 Never	2 Rarely	3 Some times	4 About half of the times	5 Often	6 Almost always	7 Always
1. I am excited about being in the UK							
2. I am out of place, like I don't fit into British culture							
3. I am sad to be away from [my home country]							
4.I am nervous about how to behave in certain situations							
5. I am lonely without my [home country] family and friends around me							
6. I am curious about things that are different in the UK							
7. I am homesick when I think of [my home country]							
8. I am frustrated by difficulties adapting to the UK							

9. I am happy with my day-to-day life in the UK							

Brief Sociocultural Adaptation Scale (BSAS; Demes & Geeraert, 2014)

Think about living in the UK. How easy or difficult is it for you to adapt to…

	1 Very difficult	2 Moderately difficult	3 Difficult	4 Neutral	5 Easy	6 Moderately easy	7 Very easy
1. Climate (temperature, rainfall, humidity)							
2. Natural environment (plant and animals, pollution, scenery)							
3. Social environment (size of the community, pace of life, noise)							
4. Living (hygiene, sleeping practices, how safe you feel)							
5. Practicalities (getting around, using public transport, shopping)							
6. Food and eating (what food is eaten, how food is eaten, time of meals)							
7. Family life (how close family members are, how much time family spend together)							
8. Social norms (how to behave in public, style of clothes, what people think is funny)							
9. Values and beliefs (what people think about religion and politics, what people thinks is right or wrong)							
10. People (how friendly people are, how stressed or relaxed people are, attitudes toward foreigners)							
11. Friends (making friends, amount of social interaction, what people do to have fun and relax)							
12. Language (learning the language, understanding people, making myself understood)							

Brief Perceived Cultural Distance Scale (BPCDS; Demes & Geeraert, 2014)

Think about your home country and the UK. In your opinion, how different or similar are these two countries in terms of…

	1 Very similar	2 Mostly similar	3 Somew hat similar	4 Neutral	5 Somewh at different	6 Mostly different	7 Very different
1. Climate (temperature, rainfall, humidity)							
2. Natural environment (plant and animals, pollution, scenery)							
3. Social environment (size of the community, pace of life, noise)							
4. Living (hygiene, sleeping practices, how safe you feel)							
5. Practicalities (getting around, using public transport, shopping)							
6. Food and eating (what food is eaten, how food is eaten, time of meals)							
7. Family life (how close family members are, how much time family spend together)							
8. Social norms (how to behave in public, style of clothes, what people think is funny)							
9. Values and beliefs (what people think about religion and politics, what people thinks is right or wrong)							
10. People (how friendly people are, how stressed or relaxed people are, attitudes toward foreigners)							
11. Friends (making friends, amount of social interaction, what people do to have fun and relax)							
12. Language (learning the language, understanding people, making myself understood)							

Post-traumatic Negative Cognitions

Post Traumatic Cognitions Inventory (PTCI; Foa et al., 1999)

Below you will find different thoughts that people may have after stressful experiences. In this questionnaire we are interested in the way that <u>you</u> thought, <u>in the last week</u>, in regard to your stressful life experiences. Please read each statement carefully and choose a number from the scale below which <u>best describes how much you agreed or disagreed with the statement</u> in the last week.

	1 Strongly disagree	2 Somew hat disagree	3 Disagre e a little	4 Neither agree nor disagree	5 Agree a little	6 Somew hat agree	7 Strongly agree
1. My reactions since the event mean that I am losing my mind.							

2. I have to be on guard all the time.							
3. If people knew what happened they would look down on me.							
4. I feel different from other people because of my experience.							
5. My life has been destroyed by the event.							
6. People are not what they seem.							
7. If I think about the event, I will not be able to handle it.							
8. I cannot accept the way my body has changed since the trauma.							
9. If I stop being angry, what happened to me will be forgotten.							
10. Nobody cares about me.							
11. I have permanently changed for the worse.							
12. I am inadequate.							
13. Stopping feeling guilty is letting myself off the hook.							
14. I have to be especially careful because you never know what can happen next.							
15. There is something wrong with me as a person.							
16. I feel dead inside.							
17.The way I behaved/thought/felt during the event is unforgivable.							
18. I will not be able to control my anger and will do something terrible.							
19. Nothing good can happen to me anymore.							
20. Since the trauma, I feel that my body is ruined.							

Public and Communal Self-Appraisal Measure (PCSAM; Engelbrecht & Jobson, 2014).

Below you will find different thoughts that people may have after stressful experiences. In this questionnaire we are interested in the way that <u>you</u> thought, <u>in the last week</u>, in regard to your stressful life experiences. Please read each statement carefully and choose a number from the scale below which <u>best describes how much you agreed or disagreed with the statement</u> in the last week.

	1 Strongly disagree	2 Somew hat disagree	3 Disagre e a little	4 Neither agree nor disagree	5 Agree a little	6 Somew hat agree	7 Strongly agree
1. Fate or God or Bad Luck caused the event to happen							
2. Since the event I have a pessimistic view of life							
3. My Faith or Religion or Beliefs have been challenged by the event							
4. Since the event I feel let down by the world							
5. Since the event I feel let down by Fate or my Beliefs or God or my Faith							

6. Since the event I do not feel like I have a place in the world							
7. Since the event I have sacrificed my needs for the needs of significant others							
8. Since the event I feel like I am a burden (e.g. a problem/trouble/worry) to others							
9. I do not want anyone to know about the event							
10. Since the event I no longer feel close to others							
11. Since the event other people have become a priority							
12. Since the event my relationships have been damaged or challenged							
13. Since the event I find it hard to have relationships with others							
14. Since the event others have made the problem worse							
15. Since the event I have lost my social role/identity (e.g. as a parent, husband, wife, at work)							
16. Since the event I have failed in my role(s)							
17. Since the event my values have changed							
18. Since the event I try harder to meet social or cultural expectations							
19. Since the event I have not lived up to social or cultural expectations							
20. Since the event I try hard to act appropriately							
21. Since the event I do not feel I am a significant member of my culture or society or community or Group							

Mental Health Outcomes

PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015)

Think about the event you consider the worst event [*listed in the LEC-5*], which for this questionnaire means the event that currently bothers you the most. If you have experienced only one of the events listed above, use that one as the worst event. Please answer the following questions about <u>the worst event.</u>

Briefly identify the worst event (if you feel comfortable doing so):

When did this event happen? Please select one or more options

	Before I left my home country / emigrated
	During the migration journey

	After I left my home country / emigrated

Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then select one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by...

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Loss of interest in activities that you used to enjoy?					
13. Feeling distant or cut off from other people?					
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
15. Irritable behaviour, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being "superalert" or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

Patient Health Questionnaire 8 (*PHQ-8;* Kroenke et al., 2001)

We are going to ask you about how you have felt more generally recently. Over the last two weeks, how often have you been bothered by any of the following problems?

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

General Anxiety Disorder 7 (GAD-7; Spitzer et al., 2006)

Over the last two weeks, how often have you been bothered by any of the following problems?

	0 Not at all	1 Several Days	2 More than half the days	3 Nearly every day
1. Feeling nervous, anxious or on edge?				
2. Not being able to stop or control worrying?				
3. Worrying too much about different things?				
4. Trouble relaxing?				
5. Being so restless that it is hard to sit still?				
6. Becoming easily annoyed or irritable?				
7. Feeling afraid as if something awful might happen?				

Control Variables

Life Events Checklist for DSM-5 (*LEC-5*; Gray et al., 2004)

Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your entire life (growing up as well as adulthood) as you go through the list of events.

Please write B, D or A to indicate whether they happened before [B], during [D] or after [A] migrating out of your country of origin and coming to the UK. You can select more than one option if applicable.

	It happened to me	Witnessed it	I learned about it	Part of my job	Not sure	Doesn't apply	Happened [B], [D], [A]
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)							
2. Fire or explosion							

3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)							
4. Serious accident at work, home, or during recreational activity							
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)							
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)							
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)							
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)							
9. Other unwanted or uncomfortable sexual experience							
10. Combat or exposure to a war-zone (in the military or as a civilian)							
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)							
12. Life-threatening illness or injury							
13. Severe human suffering							
14. Sudden violent death (for example, homicide, suicide)							
15. Sudden accidental death							
16. Serious injury, harm, or death you caused to someone else							
17. Any other very stressful event or experience (specify): _____							

Appendix 13: TDRP Supplemental Material – Results Mediation Analysis

Bootstrapped relative indirect effects for multi-categorical mediation comparisons by clusters:

	Pairwise comparisons between categorical variables	Mediations
Acc → Personal Neg Appr → PTSD	1v3 indirect = -4.01, SE = 1.68, 95% CI [-7.46, -.84] * 2v3 indirect = -3.38, SE = 1.71, 95% CI [-6.84, -.13] * 2v1 indirect = .48, SE = 1.32, 95% CI [-2.52, 2.93]	HEA < LA HHA < LA
Acc → Public & Communal Appr → PTSD	1v3 indirect = -4.41, SE = 1.67, 95% CI = [-7.71, -1.09]* 2v3 indirect = -5.11, SE = 1.56, 95% CI = [-8.22, -1.97]* 2v1 indirect = -.72, SE = 1.62, 95% CI = [-3.94, 2.13]	HEA < LA HHA < LA
Acc → Personal Neg Appr → Depr	1v3 indirect = -1.37, SE = .59, 95% CI [-2.58, -.26] * 2v3 indirect = -1.15, SE = .62, 95% CI = [-2.47, -.05] * 2v1 indirect = .15, SE = .41, 95% CI = [-.80, .87]	HEA < LA HHA < LA
Acc → Public & Communal Appr → Depr	1v3 indirect = -1.59, SE = .64, 95% CI = [-2.89, -.35] * 2v3 indirect = -1.84, SE = .62, 95% CI = [-3.11, -.67] * 2v1 indirect = -.23, SE = .50, 95% CI = [-1.28, .72]	HEA < LA HHA < LA
Acc→ Personal Neg Appr → Anx	1v3 indirect = -1.13, SE = .51, 95% CI = [-2.20, -.23] * 2v3 indirect = -.95, SE = .53, 95% CI = [-2.13, -.05] * 2v1 indirect = .12, SE = .38, 95% CI = [-.80, .80]	HEA < LA HHA < LA
Acc → Public & Communal Appr → Anx	1v3 indirect = -1.21, SE = .49, 95% CI = [-2.23, -.29] * 2v3 indirect = -1.41, SE = .50, 95% CI = [-2.46, -.49] * 2v1 indirect = -.14, SE = .37, 95% CI = [-1.1, .42]	HEA < LA HHA < LA

Mediation analyses with acculturation as a continuous variable (Composite Z scores):

	Total effect		Direct Effect		Indirect Effect	
	(SE) (95% CI)	**t-statistic (p)**	**(SE) (95% CI)**	**t-statistic (p)**	**(SE) (95% CI)**	**% Mediation**
Acc → Personal Neg Appr → PTSD	-7.54 (1.52) (-10.53 – -4.55)	-4.97 (.00)*	-3.68 (1.16) (-5.98 – -1.39)	-3.17 (.00)*	-.18 (.06) (-.32 – -.07)*	51 %
Acc → Public & Communal Appr → PTSD	-7.54 (1.52) (-10.53 – -4.55)	-4.97 (.00)*	-2.97 (1.21) (-5.36 – -.58)	-2.46 (.02)*	-4.57 (.1.09) (-6.86 – -2.59)*	61 %
Acc → Personal Neg Appr → Depr	-2.44 (.64) (-3.71 – -1.17)	-3.81 (.00)*	-1.12 (.56) (-2.23 – -.01)	-1.99 (.047)*	-1.32 (.48) (-2.39 – -.06)*	54%
Acc → Public & Communal Appr → Depr	-2.44 (.64) (-3.71 – -1.17)	-3.81 (.00)*	-.78 (.56) (-1.89 – .33)	-1.38 (.17)	-1.67 (.42) (-2.55 – -.89)*	68 %
Acc → Personal Neg Appr → Anx	-2.49 (.61) (-3.70 – -1.29)	-4.09 (.00)*	-1.46 (.57) (-2.58 – -.33)	-2.56 (.01)*	-1.03 (.45) (-2.06 – -.32)*	42 %
Acc → Public & Communal Appr → Anx	-2.49 (.61) (-3.70 – -1.29)	-4.09 (.00)*	-1.31 (.59) (-2.47 – -.14)	-2.22 (.03)*	-1.18 (.35) (-1.94 – -.58)*	48 %

Appendix 14: Journal Submission Guides

SRL Journal Submission Guide

Journal of Religion and Health

General Information

Inquiries regarding journal policy, manuscript preparation, and other such general topics should be sent to the Editor in Chief, Dr. Lindsay Carey (Lindsay.Carey@latrobe.edu.au). Books for review and inquires about book reviews can also be sent to the Editor in Chief.

Please ensure any manuscript you submit is in English and follows APA referencing guidelines for style and content. Please make sure you check spelling, punctuation, and grammar before submission. Please make sure citation of figures, tables and references is accurate and consistent throughout the manuscript. Manuscripts not following these guidelines will require revisions before being accepted for publication. Manuscript length, except under unusual circumstances, should not exceed 25 double-spaced pages. Authors may include on their title page a list of three or more potential suggested reviewers.

Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

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Please ensure you provide all relevant editable source files at every submission and revision. Failing to submit a complete set of editable source files will result in your article not being considered for review. For your manuscript text please always submit in common word processing formats such as .docx or LaTeX.

Title Page

Please make sure your title page contains the following information.

- Title: The title should be concise and informative.
- Author information: The name(s) of the author(s); The affiliation(s) of the author(s), i.e. institution, (department), city, (state), country; a clear indication and an active e-mail address of the corresponding author. If available, the 16-digit ORCID of the author(s)
- If address information is provided with the affiliation(s) it will also be published.
- For authors that are (temporarily) unaffiliated we will only capture their city and country of residence, not their e-mail address unless specifically requested.

Large Language Models (LLMs), such as ChatGPT, do not currently satisfy our authorship criteria. Notably an attribution of authorship carries with it accountability for the work, which

cannot be effectively applied to LLMs. Use of an LLM should be properly documented in the Methods section (and if a Methods section is not available, in a suitable alternative part) of the manuscript.

Abstract
Please provide an abstract of 150 to 250 words. The abstract should not contain any undefined abbreviations or unspecified references.
Please note: For some articles (particularly, systematic reviews and original research articles), 250 words may not be sufficient to provide all necessary information in the abstract. Therefore, the abstract length can be increased from the 250-word limit (to up to 450 words) if the topic dictates, and to allow full compliance with the relevant reporting guidelines.

Keywords
Please provide 4 to 6 keywords which can be used for indexing purposes.

Acknowledgements
An Acknowledgment section may be included to acknowledge, for example, people who have assisted with aspects of the work (but who do not qualify as authors), disclaimers, collaborations, etc.

Statements and Declarations
The following statements should be included under the heading "Statements and Declarations" for inclusion in the published paper. Please note that submissions that do not include relevant declarations will be returned as incomplete.
Competing Interests: Authors are required to disclose financial or non-financial interests that are directly or indirectly related to the work submitted for publication.

References
Citation
Cite references in the text by name and year in parentheses. Some examples:

> Negotiation research spans many disciplines (Thompson, 1990).
> This result was later contradicted by Becker and Seligman (1996).
> This effect has been widely studied (Abbott, 1991; Barakat et al., 1995; Kelso & Smith, 1998; Medvec et al., 1999).

Authors are encouraged to follow official APA version 7 guidelines on the number of authors included in reference list entries (i.e., include all authors up to 20; for larger groups, give the first 19 names followed by an ellipsis and the final author's name). However, if authors shorten the author group by using et al., this will be retained.

Reference list
The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Reference list entries should be alphabetized by the last names of the first author of each work. Journal names and book titles should be *italicized*. If available, please always include DOIs as full DOI links in your reference list (e.g. "https://doi.org/abc").

Tables
All tables are to be numbered using Arabic numerals. Tables should always be cited in text in consecutive numerical order. For each table, please supply a table caption (title) explaining the components of the table. Identify any previously published material by giving the original source in the form of a reference at the end of the table caption. Footnotes to tables should be indicated

by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.

Artwork and Illustrations Guidelines
Electronic Figure Submission: Supply all figures electronically. Indicate what graphics program was used to create the artwork. For vector graphics, the preferred format is EPS; for halftones, please use TIFF format. MSOffice files are also acceptable. Vector graphics containing fonts must have the fonts embedded in the files. Name your figure files with "Fig" and the figure number, e.g., Fig1.eps.

Line Art
Definition: Black and white graphic with no shading. Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size. All lines should be at least 0.1 mm (0.3 pt) wide. Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi. Vector graphics containing fonts must have the fonts embedded in the files.

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Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc. Combination artwork should have a minimum resolution of 600 dpi.
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All figures are to be numbered using Arabic numerals. Figures should always be cited in text in consecutive numerical order. Figure parts should be denoted by lowercase letters (a, b, c, etc.). If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text. Do not number the appendix figures,"A1, A2, A3, etc." Figures in online appendices [Supplementary Information (SI)] should, however, be numbered separately.

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Each figure should have a concise caption describing accurately what the figure depicts. Include the captions in the text file of the manuscript, not in the figure file. Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type. No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption. Identify all elements found in the figure in the figure caption; and use boxes, circles, etc., as coordinate points in graphs. Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

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Footnotes

Footnotes should be avoided. When their use is absolutely necessary, footnotes should be numbered consecutively using Arabic numerals and should be typed at the bottom of the page to which they refer. Place a line above the footnote, so that it is set off from the text. Use the appropriate superscript numeral for citation in the text.

SIP Journal Submission Guide

Journal of Community & Applied Social Psychology

This journal participates in the Wiley Social and Personality Psychology Publishing Network. This exciting collaboration between a number of high quality journals simplifies and speeds up the publication process, helping authors find a home for their research. At the Editors' judgement, suitable papers not accepted by one journal may be recommended for referral to another journal(s) in the network. Authors decide whether to accept the referral offer, with the option to transfer their paper with or without revisions. Once the referral is accepted, submission happens automatically, along with any previous reviewer reports (if applicable), thereby relieving pressure on the peer review process. While a transfer does not guarantee acceptance, it is more likely to lead to a successful outcome for authors by helping them to find a route to publication quickly and easily.

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Acknowledgments

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Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be concise but comprehensive – the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

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TDRP Journal Submission Guide

Behaviour Research and Therapy

About the journal

Aims and scope

An International Multi-Disciplinary Journal. The major focus of *Behaviour Research and Therapy* is an experimental psychopathology approach to understanding emotional and behavioral disorders and their prevention and treatment, using cognitive, behavioral, and psychophysiological (including neural) methods and models. This includes laboratory-based experimental studies with healthy, at risk and subclinical individuals that inform clinical application as well as studies with clinically severe samples. The following types of submissions are encouraged: theoretical reviews of mechanisms that contribute to psychopathology and that offer new treatment targets; tests of novel, mechanistically focused psychological interventions, especially ones that include theory-driven or experimentally-derived predictors, moderators and mediators; and innovations in dissemination and implementation of evidence-based practices into clinical practice in psychology and associated fields, especially those that target underlying mechanisms or focus on novel approaches to treatment delivery. In addition to traditional psychological disorders, the scope of the journal includes behavioural medicine (e.g., chronic pain). The journal will consider manuscripts dealing primarily with measurement and psychometric analyses if relevant to the primary focus of the journal (e.g., transdiagnostic mechanisms). The Editor and Associate Editors will make an initial determination of whether or not submissions fall within the scope of the journal and/or are of sufficient merit and importance to warrant full review.

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You are required to provide 1 to 7 keywords for indexing purposes. Keywords should be written in English. Please try to avoid keywords consisting of multiple words (using "and" or "of"). We recommend that you only use abbreviations in keywords if they are firmly established in the field.

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Artwork formats

When your artwork is finalized, "save as" or convert your electronic artwork to the formats listed below taking into account the given resolution requirements for line drawings, halftones, and line/halftone combinations:

- Vector drawings: Save as EPS or PDF files embedding the font or saving the text as "graphics."
- Color or grayscale photographs (halftones): Save as TIFF, JPG or PNG files using a minimum of 300 dpi (for single column: min. 1063 pixels, full page width: 2244 pixels).
- Bitmapped line drawings: Save as TIFF, JPG or PNG files using a minimum of 1000 dpi (for single column: min. 3543 pixels, full page width: 7480 pixels).
- Combinations bitmapped line/halftones (color or grayscale): Save as TIFF, JPG or PNG files using a minimum of 500 dpi (for single column: min. 1772 pixels, full page width: 3740 pixels).

Please do not submit:

- files that are too low in resolution (for example, files optimized for screen use such as GIF, BMP, PICT or WPG files).
- disproportionally large images compared to font size, as text may become unreadable.

Figure captions

All images must have a caption. A caption should consist of a brief title (not displayed on the figure itself) and a description of the image. We advise you to keep the amount of text in any image to a minimum, though any symbols and abbreviations used should be explained. Provide captions in a separate file.

Supplementary material
We encourage the use of supplementary materials such as applications, images and sound clips to enhance research. Some guidelines:

- Supplementary material should be accurate and relevant to the research.
- Cite all supplementary files in the manuscript text.
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- Include a concise, descriptive caption for each supplementary file describing its content.
- Provide updated files if at any stage of the publication process you wish to make changes to submitted supplementary materials.
- Do not make annotations or corrections to a previous version of a supplementary file.
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