Psychological Distress and Socioeconomic Status. A Consideration of Associated Factors

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Thesis Abstract

Section one reports a quantitative systematic literature review which explores the acceptability of mental health services for people of low socioeconomic status. Four databases were searched (PsycInfo, CINAHL complete, MEDLINE and Academic Search Ultimate) and ten studies met the inclusion criteria. A narrative synthesis approach was implemented to systematically explore the findings of the papers. The psychological factors considered in relation to acceptability were: affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs, self-efficacy and cultural competence. Methodological quality was assessed using the Joanne Briggs Institute Critical Appraisal Checklist for Analytical Cross Sectional Studies. Concerns were noted regarding the measures of predictor and outcome variables. Strengths were found in the statistical analysis of confounders.

Section two reports an empirical study investigating food insecurity in the United Kingdom. This research aimed to understand 1) the relationship between food insecurity and psychological distress and 2) whether shame moderates the relationship between these variables. Participants were aged 18+ and self-identified as food insecure within the previous six months. A cross-sectional survey was conducted online and via paper copies, consisting of measures of food insecurity, psychological distress and shame. The study findings show that food insecurity and shame account for 74% of the variance in psychological distress in people who report food insecurity. No moderation was found suggesting the relationship between food insecurity and psychological distress is not moderated by shame. However, a significant interaction may not have been found, as the study may have been underpowered. The findings of this research have implications for those working in both mental health services and food aid organisations and these are discussed.

Section three contains a critical appraisal of issues relating to research into deprivation, including discussion of the sociopolitical context in which this research took place. Suggestions for future research are given.

Declaration

This thesis documents research undertaken for the Doctorate in Clinical Psychology at the Division for Health Research, Lancaster University. The work presented here is my own, except where due reference is made. The work has not been submitted for the award of a higher degree anywhere else.

Stephanie Walsh

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Section One: Literature Review

Psychological Factors Associated with the Acceptability of Mental Health Services for People with Low Socioeconomic Status: A Systematic Review

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Formatted for submission to the SSM- Mental Health (Author Guidelines attached in Appendix 1A)

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Abstract

Many people experiencing mental health difficulties do not access services, and those with low socioeconomic status (SES) are particularly disadvantaged. It is important for mental health services to understand the barriers preventing access so that disparities can be reduced. Barriers related to acceptability of services for people with low SES have not been reviewed, and this is the aim of this systematic literature review. Psychological factors detailed in the theoretical framework of acceptability were chosen as outcomes, alongside cultural competence.

A search of electronic databases identified ten eligible papers published between 1984 and 2020. Methodological quality was assessed using the Joanne Briggs Institute Critical Appraisal Checklist for Analytical Cross Sectional Studies, and areas for potential bias were identified. A narrative synthesis approach was implemented to systematically explore the findings of the papers.

The research suggests that mental health services are largely acceptable for people with low SES. Attitudinal and self-efficacy barriers were linked to the perceived severity of a mental health difficulty, the likelihood that this would resolve itself without intervention, and the ability to manage mental health difficulties alone. Mental health services were largely perceived as effective, but this was not a consistent finding and some viewed services as ineffective or even harmful. However, these conclusions are based on a small number of studies. Only one study considered cultural competence and no data were obtained for burden, ethicality, intervention coherence or opportunity costs.

Methodological quality of the eligible papers was assessed, with concerns regarding the measures of predictor and outcome variables. Strengths were found in the statistical analysis of confounders. Implications for further research are discussed.

Keywords: mental health; acceptability; barriers; low-income; effectiveness; attitude

1. Introduction

Mental health services aim to support people to improve their psychological wellbeing; most often working with mood disorders, anxiety disorders and psychosis. The provision of mental health services varies within and between countries with differences noted in availability, affordability and accessibility. Research consistently demonstrates the underutilisation of mental health services, with estimates suggesting that only 25- 40% of people with a mental illness receive mental health input (Kessler et al., 2001; NHS England, 2014). Not receiving care or delays in accessing care is associated with longer term negative consequences on quality of life, as well as increased morbidity and mortality (Wang et al., 2004). Consequently, healthcare reforms in countries such as the United States (US), Canada and the United Kingdom (UK), have committed to improving equal access to mental healthcare, by implementing policies to break down access barriers (Garratt & Laing, 2022; Moroz et al., 2020; Narrow et al., 2000).

Aday and Andersen (1974) developed a model of healthcare utilisation which highlights the influence of contextual and individual factors on health behaviour and service satisfaction. Contextual factors include: healthcare policies, resources, type of service, and service delivery. Individual factors include: age, sex, ethnicity, insurance status, income and illness level. Similarly, using the ecological systems theory, Bronfenbrenner (1979) outlines the influence of interconnected environmental systems on a person's behaviour. At the microsystems level a person is influenced by family, school and the neighbourhood in which they live, at the macrosystems level there is the influence of social and cultural values. In keeping with these models, Cauce et al. (2002) argues that differences in service use are the result of interactions between individual influences, cultural values, beliefs about mental health, and contextual and systemic factors.

1.2 Mental Health Service Use and Socioeconomic Status

Estimates of the underutilisation of mental health services suggest that the majority of people who need mental healthcare are not accessing it. Furthermore, this unmet need is higher in particular groups; for instance, those from socioeconomically disadvantaged groups are underrepresented in mental health services (Cobb, 1972; Davies et al., 2010; Katz et al., 1997; Steele et al., 2006; Wang et al., 2005). This is particicularly concerning given that people with lower income levels have more difficulties with their mental health than people with higher income levels (Alegría et al., 2000; McAlpine & Mechanic, 2000; McLaughlin, 2004; Regier et al., 1993; Smith et al., 2021). Using the Bronfenbrenner ecological systems theory as a framework, at the macrosystem level socioeconomic disadvantage reduces opportunities resulting in a poorer standard of education, lower paid work and financial difficulties perpetuating a cycle of poverty (Eriksson et al., 2018). These factors interact at the exosystems level by increasing daily stresses and reducing the opportunities for leisure (Niemeyer et al., 2019). This can negatively influence mental wellbeing; yet, the person may not identify a mental health need due to poor mental health literacy (Alvidrez., 1999; Niemeyer et al., 2019; Thoits., 2005). Additionally, people with low SES are less likely to seek help due to a lack of knowledge about mental health care systems, stigmatisation and reduced psychosocial resources (Hatzenbuehler et al., 2013; Macintyre et al., 2018). Delaying mental health treatment can enhance morbidity (Wang et al., 2004) and people with a low SES are more likely to be admitted as inpatients than their higher SES peers (Cobb, 1972; Davies et al., 2010; Katz et al., 1997; Steele et al., 2006; Wang et al., 2005). Consequently, at a microsystem level, the experiences, beliefs and expectations of mental health services within the persons social circle can facilitate or deter whether they are accessed (Vogel et al., 2007).

The relationship between mental healthcare utilisation and SES is complex and influenced by factors across the ecological systems, and some of these factors are highlighted

below (Smith et al. (2021) . For instance, some studies found no relationship between SES and mental health utilisation due to the influence of the country's healthcare system (Alegría et al., 2000; Roy-Byrne et al., 2009). They reported poorer mental health service utilisation in the US for people with a middle SES, showing a curvilinear relationship. This group were unable to afford mental healthcare in addition to not having access to the insurance policies available to those with lower SES.

SES is a key variable; however, it may be influenced by other demographic characteristics also associated with mental healthcare utilisation(Aday and Andersen (1974). As such, when examining outcomes of the eligible studies in this review, demographic variables were examined as they may help to explain variability in outcomes.

1.3 Contextual Factors Relating to Mental Healthcare

Affordability is a contextual factor important to this review as it can be a barrier for people of low SES, particularly in healthcare systems where treatment incurs a fee. Hence the importance of understanding the healthcare context of the country in which studies take place. In the US healthcare incurs a fee unless a person has insurance or is eligible for a program which helps to cover costs (McLaughlin, 2004). Support towards healthcare costs exist for people with lower income levels but these can be complicated and do not always fully cover the care that may be required. In Canada, universal healthcare coverage enables people to access some mental health services without incurring costs (Moroz et al., 2020) and similarly in the UK free access to mental healthcare is provided through the National Health Service (NHS).

Financial barriers to mental healthcare can explain some of the underutilisation of services for people of low SES. For instance, in the US people with the lowest income are less likely to have mental health insurance, and are subsequently less likely to use services

than those with higher incomes (Katz et al., 1997; Wang et al., 2000). The picture is less clear in Canada with Katz et al. (1997) concluding people with the lowest incomes were more likely to receive care; but Steele et al. (2006) finding the opposite. The difference in findings perhaps relate to the type of mental health service, as not all are covered under the universal healthcare coverage system. The studies discussed here provide context to some of the complexities surrounding mental health service utilisation directly related to SES.

1.4 Acceptability of Mental Healthcare

Acceptability is not a well-defined term and papers exploring this concept frequently fail to provide definitions (Casale et al, 2023; Sekhon, 2017). In a review, it was noted that none of the 43 included studies provided a definition of acceptability (Sekhon et al, 2017). The authors concluded that "acceptability is a multi-faceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention" (Sekhon et al., 2017, p. 4). Sekhon et al. (2017) went on to develop a theoretical framework of acceptability containing seven constructs: affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs and self-efficacy (see Appendix 1B for definitions). This framework provides a structure around the term acceptability and could indicate the beginning of a degree of consistency within acceptability research.

Stigma has been related to the acceptability of services but was not explored within this review. This decision was made because the negative role of stigma on help seeking and continuing engagement with mental health services has been widely concluded (Corrigan, 2004; Gary, 2005; Lindsay Nour et al., 2009; Schomerus & Angermeyer, 2008). Moreover, this topic area was systematically reviewed by Clement et al. (2015) who concluded that

mental health related stigma has a small to moderate effect size on help-seeking. This effect is likely to be increased for people with other stigmatised identities including people with low SES (Knifton & Inglis, 2020).

Acceptability is defined as the interaction between patient and provider attitudes and preferences in relation to service experience (Duhoux et al., 2017). Contextual and individual factors can influence this interaction (Aday & Andersen, 1974), and problems relating to acceptability can be barriers to mental healthcare access (Gulliver et al., 2010; Steele et al., 2006). Specifically, Gulliver et al. (2010) conducted a systematic review of mental healthcare barriers in young people, and found factors relating to acceptability included concerns about stigma, confidentiality and worries about seeking help, as well as the influence of self-reliance (Gulliver et al., 2010). Other studies of acceptability have also assessed stigma, confidentiality issues and cultural barriers (Moroz et al., 2020; Willging et al., 2008). Acceptability variables have been found to be important in determining level of satisfaction with healthcare (Sovd et al., 2006).

The aim of this review was to systematically explore the literature to understand how acceptable mental health services are for people with a low SES. Acceptability of mental health services are considered from the viewpoint of those receiving care and specifically those with a low SES. The seven constructs noted by Sekhon et al. (2017) in their theoretical framework of acceptability are included, alongside cultural competence which is another recognised concept. Additionally, data on unmet mental health need, mental health diagnosis and demographics are presented. This information assists in providing context to the results and offers explanations for variations in the findings of acceptability. Only studies from high-income countries are included to maintain a degree of homogeneity in the participant samples and availability of mental health services. This allows for factors relating to acceptability to be considered without being influenced by notable differences in other barriers. To the

authors knowledge there have been no published reviews on this topic. The findings of this review are likely to be of interest to mental health services, particularly those serving deprived areas, and could inform service planning. Furthermore, within the current economic climate more people are struggling financially, this is in addition to continuing to experience the financial and mental health impact of COVID-19 (Garratt & Laing, 2022). Therefore, it is increasingly important that mental health services are accessible.

2. Method

2.1 Search Strategy

To identify whether there were existing or ongoing reviews into low SES and use of mental health services the following databases were searched: Database of Abstracts of Reviews of Effects (Centre for Reviews and Dissemination, 2022); Cochrane Database of Systematic Reviews (The Cochrane Library, 2022); PROSPERO (National Institute for Health Research, 2023); and The Campbell Collaboration website (The Campbell Collaboration, 2022). No reviews were identified justifying the progression of a systematic literature review of this topic area.

Several scoping searches of the literature were completed to identify relevant search terms and to define the scope of the review. Initial searches focused broadly on barriers to mental health service access; namely structural issues related to accessibility, availability and affordability, as well as psychological factors related to acceptability. Following the scoping searches, a decision was made to focus this systematic review on barriers related to acceptability for people of low SES in accessing mental health services. Consultation with a librarian took place prior to the scoping searches and the final systematic search. This review follows published guidelines for undertaking reviews in healthcare (Centre for Reviews and Dissemination, 2009) and PRISMA guidelines (Page et al., 2021) were adopted.

A search of the following electronic databases took place in July 2022: PsycInfo, Cumulative Index to Nursing and Allied Health Literature (CINAHL complete), MEDLINE and Academic Search Ultimate. Databases were selected based on psychological and social content to reflect the topic of the review and to improve the likelihood of identifying relevant papers. Subject heading/index terms and free text title and/or abstract searches were completed using the following search terms: ‘poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship"’ AND ‘(("mental health" OR "mental-health" OR psychol*) OR (mental N5 (health OR wellbeing OR well-being OR "well being" OR wellness))’ AND ‘((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care))’.

An English language limiter was applied and the review included only published peer reviewed papers. No age, date or study design limits were applied. See Appendix 1B for a more detailed account of the search strategy by electronic database.

2.2 Selection Strategy

Following the initial search and application of limiters, duplicates were removed. Abstracts and titles were manually scanned and papers which were qualitative, did not mention mental health service use, nor indicate low SES were excluded.

A full text search of the remaining papers was completed with a focus on participant sample, type of barrier, service and data analysis. It was noted that some studies included a mixed population in terms of SES and the decision was made not to include these in this review. These studies tended to use census data and did not analyse the links between mental health service use and SES directly; meaning the data were less specifically related to the research question posed by this review. Additionally, studies which only focused on stigma

as a barrier to mental health service use were excluded; this was not a focus of this review and a systematic literature review already exists (Clement et al., 2015). Further details of the inclusion and exclusion criteria can be found in Table 1.1.

"TABLE 1.1 HERE"

The selection strategy was completed by a single reviewer (SW), which was appropriate given the review is part of a thesis project. The following databases were searched: Academic Search Complete; CINAHL; MEDLINE and PsycINFO. Duplicate papers were removed and the remaining papers were screened for eligibility by title and abstract. Papers left at this stage were reviewed using the inclusion and exclusion criteria and those remaining were deemed eligible for review.

2.3 Methodological Quality Assessment

Papers were assessed for quality using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross Sectional Studies (Moola et al., 2017) which can be found in Appendix 1C. This tool was selected due to appropriateness for observational studies, ease of use and the inclusion of guidance for completion. It has also being used in systematic reviews with a mental health focus (Mohwinkel et al., 2018). Whilst two of the papers included within this review were cohort studies and one a case control study, it was felt that the above appraisal tool remained appropriate for assessing quality. This decision was based on a need for overall consistency in comparison, there being similarities between tools, and questions about exposure and group allocation not being appropriate.

The JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies prompts reviewers to consider potential areas of bias around sample selection, validity and reliability of measures, confounding factors and the appropriateness of the statistical analysis used. For

this review, the question about the exposure was modified to ‘objective and standard’ as there is no ‘valid and reliable’ measure of poverty. Similarly, the question about the condition was amended to reflect that there are measures of mental health which have demonstrated validity and reliability.

To monitor inter rater reliability, a selection of five papers were independently assessed by a second reviewer and compared for consistency. 92.5% of rated items were agreed and discrepancies were discussed alongside the JBI guidance for the corresponding questions. An agreement was then reached.

2.4 Power

Tsang et al. (2020) was the only paper which reported a power analysis, noting that their sample size was relatively low for the complexity of the structural equation modeling used.

3. Results

The search returned a total of 10,978 papers from the following databases: 2,071 from Academic Search Complete; 2,564 from CINAHL; 3,824 from MEDLINE and 2,519 from PsycINFO. Duplicates were removed and the remaining 4,618 papers were screened by title and abstract. This left 191 papers which were assessed for eligibility, using the inclusion and exclusion criteria (Table 1.1). 19 papers were excluded at this stage as the original researchers did not examine the specific links between SES and acceptability. A total of 10 papers were eligible for this review. A visual scan of the reference lists and forward citation searching did not reveal any additional papers. Grey literature was not searched as only full journal articles were included. Figure 1.1 shows the selection process.

“FIGURE 1.1 HERE”

Overall, methodological quality of included studies was satisfactory for analytical cross-sectional studies. All studies clearly described the inclusion criteria and population from which the sample were taken. Five studies described recruitment of participants as being 'randomly selected' (Dasberg et al., 1984; Duhoux et al., 2017; Kim et al., 2007; Murry et al., 2011; Packness et al., 2019) and one noted systematic sampling (De Rosa et al., 1999). All papers were deemed to have used appropriate statistical analysis for the interpretation of the data. The main problems identified by the quality assessment tool were; the lack of validity and reliability of the way mental health and acceptability were measured, and the measures of poverty were not objective. Table 1.2 presents an overview of the agreed quality assessment outcomes. No studies were excluded on the basis of quality ratings. However, ratings on items were used to weight evidence from studies as well as help gain a clear summary of the quality of the literature as a whole. The latter was a potential aid to informing future research.

"TABLE 1.2 HERE"

Ten papers were reviewed and these originated from four countries; eight from USA (De Rosa et al., 1999; Kim et al., 2007; Larson et al., 2013; Martin & Howe, 2016; Murry et al., 2011; Tsang et al., 2020; Weaver et al., 2020), and one each from Canada (Duhoux et al., 2017), Denmark (Packness et al., 2019) and Israel (Dasberg et al., 1984). Seven studies were cross sectional (Dasberg et al., 1984; De Rosa et al., 1999; Kim et al., 2007; Larson et al., 2013; Tsang et al., 2020; Weaver et al., 2020), two prospective cohort studies (Duhoux et al., 2017; Murry et al., 2011) and one case-control study (Martin & Howe, 2016). There were 1,822 participants across the papers, with sample sizes ranging from 55 (Larson et al., 2013) to 314 (Packness et al., 2019). Papers were published between 1984 (Dasberg et al., 1984) and 2020 (Tsang et al., 2020; Weaver et al., 2020).

Participants were recruited from areas of social deprivation (Dasberg et al., 1984; Murry et al., 2011; Packness et al., 2019), mental health services (Kim et al., 2007; Larson et al., 2013), services for people who are homeless (De Rosa et al., 1999; Duhoux et al., 2017; Martin & Howe, 2016), and a food bank (Weaver et al., 2020). See Table 1.3 for a summary of study characteristics.

"TABLE 1.3 HERE"

The average age of participants was reported for six studies (Dasberg et al., 1984; Kim et al., 2007; Murry et al., 2011; Packness et al., 2019; Tsang et al., 2020; Weaver et al., 2020), with the youngest adult sample being 29 years (Dasberg et al., 1984) and the oldest being 50 years (Packness et al., 2019). Five studies included children and adolescents (De Rosa et al., 1999; Larson et al., 2013; Martin & Howe, 2016; Murry et al., 2011; Tsang et al., 2020) and two had a mean age of 14 years (Murry et al., 2011; Tsang et al., 2020). Gender was reported for all but one study (Duhoux et al., 2017); two had substantially more male participants (De Rosa et al., 1999; Kim et al., 2007); two had more females (Tsang et al., 2020; Weaver et al., 2020) and one study focused solely on female participants (Murry et al., 2011). Ethnicity was reported for all but one study (Duhoux et al., 2017) and consisted of predominantly White and African-American participants. Education was reported in six papers (Dasberg et al., 1984; Martin & Howe, 2016; Murry et al., 2011; Packness et al., 2019; Tsang et al., 2020; Weaver et al., 2020) with the highest level of educational achievement being predominantly high/secondary school (ages 14- 18), followed by college education (18+). See Table 1.4 for participant characteristics.

"TABLE 1.4 HERE"

3.1 Narrative synthesis

A narrative synthesis was chosen to systematically explore the relationships between the data of the ten eligible papers, and guidance was taken from Popay et al. (2006). A meta-analysis was not completed for this review as the study outcomes were not sufficiently similar for the results to be combined.

3.1.1 Developing a preliminary synthesis

The purpose of a preliminary synthesis is to develop an initial description of the results from the eligible papers (Popay et al., 2006). Overall, the papers included suggest that mental health services are generally acceptable for people with low SES. However, there were no studies of burden, ethicality, intervention coherence or opportunity costs. One study reported on acceptability and referred to attitudes and preferences, showing similarities to the definition of acceptability adopted by this review (Duhoux et al., 2017). The authors found that 21.3% of unmet mental health need was due to acceptability barriers.

Affective attitude was the most studied psychological factor associated with acceptability. A minority of participants felt that their mental health difficulties were not severe enough to get help (15- 22%) (Larson et al., 2013; Weaver et al., 2020) and nearly half (29.6% to 49%) believed their mental health difficulty would get better on its own (Kim et al., 2007; Weaver et al., 2020). Levels of satisfaction were high (De Rosa et al., 1999) and a trend identified homeless youth were more likely to report satisfaction than youths at risk of homelessness (Martin & Howe, 2016). Gender, age and ethnicity showed no relationship with level of satisfaction. Younger age, higher SES and higher level of education were associated with a more positive attitude towards mental health professionals and mental health difficulties (Dasberg et al., 1984). Tsang et al. (2020) found a small but significant negative

association between family income and adolescent reported attitude toward professional psychological help ($r = .20$, $p = .04$).

Perceived effectiveness was studied by six papers and results varied. Two studies concluded that one third to a half of participants perceived mental health treatment to be ineffective or would even make their situation worse (Dasberg et al., 1984; Kim et al., 2007). The remaining studies held a more positive view with only 4% to 18.8% believing the involvement of mental health treatment and mental health professionals would be unhelpful (Larson et al., 2013; Murry et al., 2011; Packness et al., 2019; Weaver et al., 2020). There were no clear between study similarities or differences in terms of demographics or mental health status which could explain the disparities in findings.

Two studies explored self-efficacy and found that between 26.3% and 55.8% of participants wanted to solve their mental health problem on their own (Kim et al., 2007; Weaver et al., 2020). Only one paper examined cultural competence and found that 17% of African-American mothers were concerned their child would not be treated as well as a White child by White professionals. It was believed that there was a lack of cultural understanding of African-American families (Murry et al., 2011). Study outcomes can be found in Table 1.5.

"TABLE 1.5 HERE"

3.1.2 Variability in study populations

Differences within and between studies in terms of demographics and the association with acceptability have been discussed. Additional to the comments above, the majority of the research into acceptability of mental healthcare for people with lower SES has been

conducted in the US. Hence, results are likely to be most applicable to the people and healthcare system in this country. Five studies involved adults (Dasberg et al., 1984; Duhoux et al., 2017; Kim et al., 2007; Packness et al., 2019; Weaver et al., 2020), two adolescents (De Rosa et al., 1999; Martin & Howe, 2016) and three where caregivers commented on the mental health needs and services for their children (Larson et al., 2013; Murry et al., 2011; Tsang et al., 2020).

3.1.3 Variability in socioeconomic status and related measures

Measures of SES included those at a household level such as; family income, (Murry et al., 2011; Tsang et al., 2020), material hardship/ financial strain (Packness et al., 2019; Weaver et al., 2020), access to benefit programs (Larson et al., 2013), educational attainment (Packness et al., 2019) and employment status (Packness et al., 2019). Neighbourhood level measures of SES were used within three papers (Dasberg et al., 1984; Murry et al., 2011; Tsang et al., 2020). In line with recommendations for measuring SES, seven studies used more than one measure to ascertain SES (Dasberg et al., 1984; Duhoux et al., 2017; Kim et al., 2007; Martin & Howe, 2016; Murry et al., 2011; Packness et al., 2019; Tsang et al., 2020).

Four studies included individuals who were homeless, identified by self-report (Kim et al., 2007) and recruitment from services accessed by people experiencing homelessness (De Rosa et al., 1999; Martin & Howe, 2016). One paper included the Housing Timeline Follow-Back Calendar (Tsemberis et al., 2007) which is a measure of homelessness demonstrating satisfactory psychometric properties (Duhoux et al., 2017).

3.1.4 Variability in mental health status and related measures

Valid and reliable measures of mental health were included in seven studies. Two used the Child Behavior Checklist (CBCL) (Murry et al., 2011; Tsang et al., 2020) and two used the 12-item Short Form Survey (SF-12) (Duhoux et al., 2017; Kim et al., 2007). The

remaining measures were used by one study each: The Brief Psychiatric Rating Scale (BPRS) (Kim et al., 2007); Post-Traumatic Checklist—Civilian Version (PCL) (Kim et al., 2007); Major Depression Inventory (MDI) (Packness et al., 2019); and Patient Health Questionnaire-2 (PHQ-2) (Weaver et al., 2020). De Rosa et al. (1999) mentions the use of a tool but no further information is provided. A description of the measures can be found in Table 1.6.

Studies of children and adolescents found between 23% and 49.2% rated as having some mental health problem at or above clinical level. Mental health difficulties related to anxiety and depression were reported for between 15% (Murry et al., 2011) to 25.8% (Tsang et al., 2020) of children, and those relating to aggression, impulsivity and inattention were reported for between 22% (Murry et al., 2011) to 27.5% (Tsang et al., 2020). Children and adolescents' previous mental health service use differed by SES (23.9- 53% low SES vs. 9-83.6% homeless youth). Only one study reported on past mental health service use in adults with 30% of the sample having accessed mental healthcare historically (Dasberg et al., 1984). Mental health difficulties related to depression were reported for 49% (Weaver et al., 2020) to 100% (Packness et al., 2019) of adults; and PTSD was reported for 54% (Kim et al., 2007).

Distinctions were not made about the number of mental healthcare treatment episodes participants had received; therefore, it was not possible to identify if aspects of acceptability were anticipatory or retrospective. It is also not possible to know if acceptability measures differed by mental health diagnosis due to the lack of consistent use between studies.

3.1.5 Variability in acceptability and related measures

There is no clearly agreed definition of acceptability within the literature and this was reflected in the measures used by eligible papers. Only five papers used a measure demonstrating validity and reliability (Larson et al., 2013; Martin & Howe, 2016; Murry et al., 2011; Packness et al., 2019; Tsang et al., 2020) and four studies measured acceptability in a way which was standard and objective (Dasberg et al., 1984; Duhoux et al., 2017; Kim et

al., 2007; Weaver et al., 2020). Comparisons of outcomes based on acceptability measures cannot be made as each measure was used by one eligible paper only. Details of the measures used can be found in Table 1.6.

"TABLE 1.6 HERE"

4. Discussion

4.1 Summary of findings

This systematic literature review used a narrative synthesis methodology to understand; 1) how acceptable mental health services are for people with low SES, and 2) whether this relationship is associated with differences in demographics or mental health need.

A small sample of papers met the inclusion criteria for this review, and few assessed the same psychological factors of acceptability. As such it is only possible to highlight similarities and differences in the papers, and not possible to draw firm conclusions or generalise findings. Furthermore, no studies reported on burden, ethicality, intervention coherence or opportunity costs, which were identified by the theoretical framework of acceptability as key psychological factors (Sekhon et al., 2017). Overall, the majority of participants within the eligible studies found mental health services to be acceptable. However, there are lessons which can be taken from the views of the minorities who report barriers and these could help reduce unmet mental health needs.

Attitudinal and self-efficacy barriers were linked to the perceived severity of a mental health difficulty, the likelihood that this would resolve itself without intervention, and the ability to manage mental health difficulties alone. These views present as a barrier to seeking mental healthcare as it is only when mental health need becomes increasingly severe or

prolonged that people access services. Conflicting findings were found regarding the relationship between SES and attitude towards mental healthcare. This may reflect the influence of confounding or unknown variables but it was not possible to explore this further due to the small number of papers. However, Cauce et al. (2002) did find that perceived need was connected with cultural and contextual factors.

Level of satisfaction with mental healthcare was high which suggests that when people do access services their needs or expectations are met. Findings about the perceived effectiveness of mental health services varied. The majority of studies concluded participants with low SES held a positive view of the effectiveness of services. Yet nearly half of the participants in one study felt mental health services were ineffective or even harmful. An explanation for this inconsistency in findings could not be found by examining demographics or mental health need. It is possible that the studies are exploring different aspects of effectiveness. For instance, upholding the view that satisfaction with mental healthcare was high, it would be expected that these services would be considered effective. Studying effectiveness in this way is to consider it in a retrospective manner, in that the person has experienced the service to report on satisfaction. It is not possible to know from the studies included within this review whether retrospective or anticipatory effectiveness are being studied. However, if a person felt that mental health services were unlikely to effectively meet their need this could influence their intention to pursue such services, and this contributes towards an explanation for unmet mental health need.

Only one study considered cultural competence, with a minority expressing concerns related to this factor in regards to mental healthcare. In a UK study, Garratt and Laing (2022) found young people from ethnic minority groups did not trust mental health services provided by the NHS, and did not believe they could help. Additionally, ethnic minorities with mental health needs are disadvantaged in accessing services (Cauce et al., 2002) and this is more so

for those with low SES (Hoberman, 1992). Therefore, cultural competence for this population should be researched further.

It was not possible to answer the second question posed by this review. However, where differences in demographics or mental health need may explain variation in findings this has been highlighted.

4.2 Strengths and limitations of eligible studies

Overall, the quality of the studies included within this review was adequate. A particular strength was the identification of confounders and the control of these through statistical analysis. These factors may hide an association between SES and acceptability of mental health services, or suggest there is an association when there is not. Yet, confounding variables are to be expected in studies of SES, particularly those that are observational, due to the influence of contextual and individual factors (Aday & Andersen, 1974; Bronfenbrenner, 1979) which are not controlled for in the study design.

A limitation of the majority of the studies relates to the measures used to assess predictor and outcome variables. Valid and reliable measures of mental health status were used by six studies, although there was variation in the type of measure which limits comparison between studies. Additionally, not all studies used measures to obtain mental health status. Variety also existed with measures of SES, many studies used individual or household level measures i.e., income, occupation or education, and some used neighbourhood level measures. Most did obtain data for more than one aspect of SES, which increased confidence in the representativeness of the sample. Within the literature, there is a lack of agreement about how SES should be measured; Steele et al. (2006) advocates using educational attainment arguing this is more accurate than income level, whereas, Davies et al. (2010) suggests measures of SES should include family income and education.

Neighbourhood level measures of SES have shown a stronger positive relationship with help-seeking than individual level SES (van der Linden et al., 2003), but tend to be used less often and mainly for census data (Krieger et al., 1997). Measuring at this level is not always meaningful if neighbourhood areas vary in financial status (Krieger et al., 1997).

With regards to measuring acceptability, there were many ways in which this was achieved ranging from a single question to objective measures of particular psychological factors. This likely reflects acceptability being a poorly defined concept without a standard measure.

4.3 Strengths and limitations of the review process

The search strategy for this review was necessarily sensitive due to the imprecise definition of acceptability in relation to health services; the strategy was discussed with library staff with expert knowledge in literature reviewing. The use of a language limiter and focus on published peer-reviewed papers potentially introduced bias; however, scoping searches, reference lists and citation searching did not reveal any further studies to be included. The selection strategy was completed by a single reviewer, which was appropriate given the review is part of a thesis project, but has potential implications for replicability. Half of the eligible papers were quality assessed by two reviewers with overall agreement achieved and this increases confidence in this process. The data extraction process was completed by a single reviewer; however, steps were taken to minimise bias and errors through the use of a data extraction form.

A limitation of the review is that all eligible studies were observational and any relationships in the data can only be inferred; conclusions are therefore tentative and susceptibility to bias is recognised. Additionally, whether something is considered acceptable can vary over time; hence, measures of acceptability will only be indicative of the moment in

which it was studied (Koelle et al., 2019). Future research should include longitudinal studies which measure acceptability over time. This way patterns of important influences could be compiled. Furthermore, the majority of studies did not have comparison groups and it is therefore not possible to know whether findings are unique to low SES populations or a reflection of mental health service use more widely. Study recruitment lacked homogeneity which could have implications for the results of this review. For instance, participants recruited from mental health services have already overcome barriers to access care and their thoughts about acceptability may be influenced by this. Furthermore, studies involving people experiencing homelessness tended to recruit from services for the homeless, therefore findings do not reflect the views of people not accessing these services and introduces selection bias. The conclusions of this review may therefore reflect a more positive view towards acceptability, as it does not contain groups where barriers are perhaps more difficult to overcome.

When considering the generalisability of findings, the majority of studies were conducted in the US and conclusions may not represent other countries. People accessing the US healthcare system can incur charges, unless they are eligible for particular programs which limit the costs. Healthcare systems within this review vary in terms of costs and whilst the focus of this review is not on financial barriers, it does involve a population who experience financial difficulties, and this could influence the acceptability of mental healthcare. Additionally, the findings of this review may not be generalisable to developing countries where mental healthcare faces more barriers in relation to accessibility and availability (Babatunde et al., 2021; Saraceno et al., 2007; Sarikhani et al., 2021).

4.4 Future research

Future research in this area should address the methodological limitations identified from this review; this includes using standardised measures of mental health and

acceptability. Studies should move beyond singular questions of satisfaction with services and explore the psychological concepts of acceptability more broadly. The influence of individual and contextual factors on mental healthcare use and acceptability could then be better understood, and services could target interventions to reduce barriers based on the local population. Also, Kim et al. (2007) highlighted that self-report measures of mental health in their study did not reflect the outcome of standardised measures, with participants under reporting their difficulties.

Furthermore, the theoretical framework of acceptability outlines seven variables, yet only three of these were found in the eligible studies. This may be because the remaining four factors are difficult to assess quantitatively and further research may benefit from a qualitative approach. Additionally, further exploration of perceived effectiveness, affective attitude and self-efficacy using a qualitative approach could help identify contextual influences. For instance, if perceived effectiveness is an issue prior to accessing services qualitative research could help to develop an understanding of the influence of these beliefs. Services could then introduce strategies or focus campaigns to reduce the impact of negative perception of effectiveness.

Acceptability factors included within this review were taken from Sekhon's (2017) the theoretical framework. Criticisms of this framework include a lack of recognition of context which may influence individuals' perspectives. An alternative framework, developed by Casale et al. (2023), whilst similar, moves beyond the individual to include the influence of peers, family and the wider community. For instance, Casale et al. (2023) include ethicality but broaden the definition offered by Sekhon et al. (2017) to include not only the individual's value system but also that of the community in which they live. Similarly, this review included cultural competence as a factor of acceptability as a consequence of the

importance of community influence on whether an individual is likely to consider mental health services acceptable (Cauce et al., 2002; Murry et al., 2011).

This review has clinical implications for mental health services in areas of low SES. As part of service improvement, mental health services could incorporate measures of acceptability barriers in their service evaluations. This would expand understanding beyond questions related to satisfaction to capture more detail about specific issues. To develop an understanding of potential anticipatory barriers in relation to acceptability, questions could ask about perceptions prior to accessing services. Alternatively, measures could be used on entry into services and repeated after a period of intervention.

To conclude, the research consistently identifies unmet mental health needs for the general population, and people with low SES are particularly disadvantaged. This review found that mental health services were mostly considered to be acceptable for people with low SES. However, important lessons can be taken from the minority of participants who did report concerns. The conclusions drawn from this review are based on limited research and a lack of consistency in reported outcome measures.

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Tables and figures

Table 1.1

Selection Strategy Inclusion and Exclusion Criteria

Variable	Inclusion	Exclusion
Population	People in poverty/low socioeconomic status or are homeless	Research conducted in low-income/ developing countries
	Research conducted in high-income countries	Sample not in poverty or of low socioeconomic status
		Data not analysed by socioeconomic factors
Intervention	Primary or secondary mental health services	Tertiary/ specialised mental health services i.e., perinatal, physical health, forensic
		Evaluation of specific therapeutic interventions within mental health services
Outcome	Acceptability: affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs, self-efficacy and cultural competence	Other barriers i.e., affordability, accessibility, availability
		Stigma only
Study design	Quantitative or mixed methods where quantitative data address research question	Qualitative or mixed methods where quantitative data does not address the research question
	Peer reviewed journal articles only	

Figure 1.1

PRISMA 2020 Flow Diagram (Page et al., 2021)

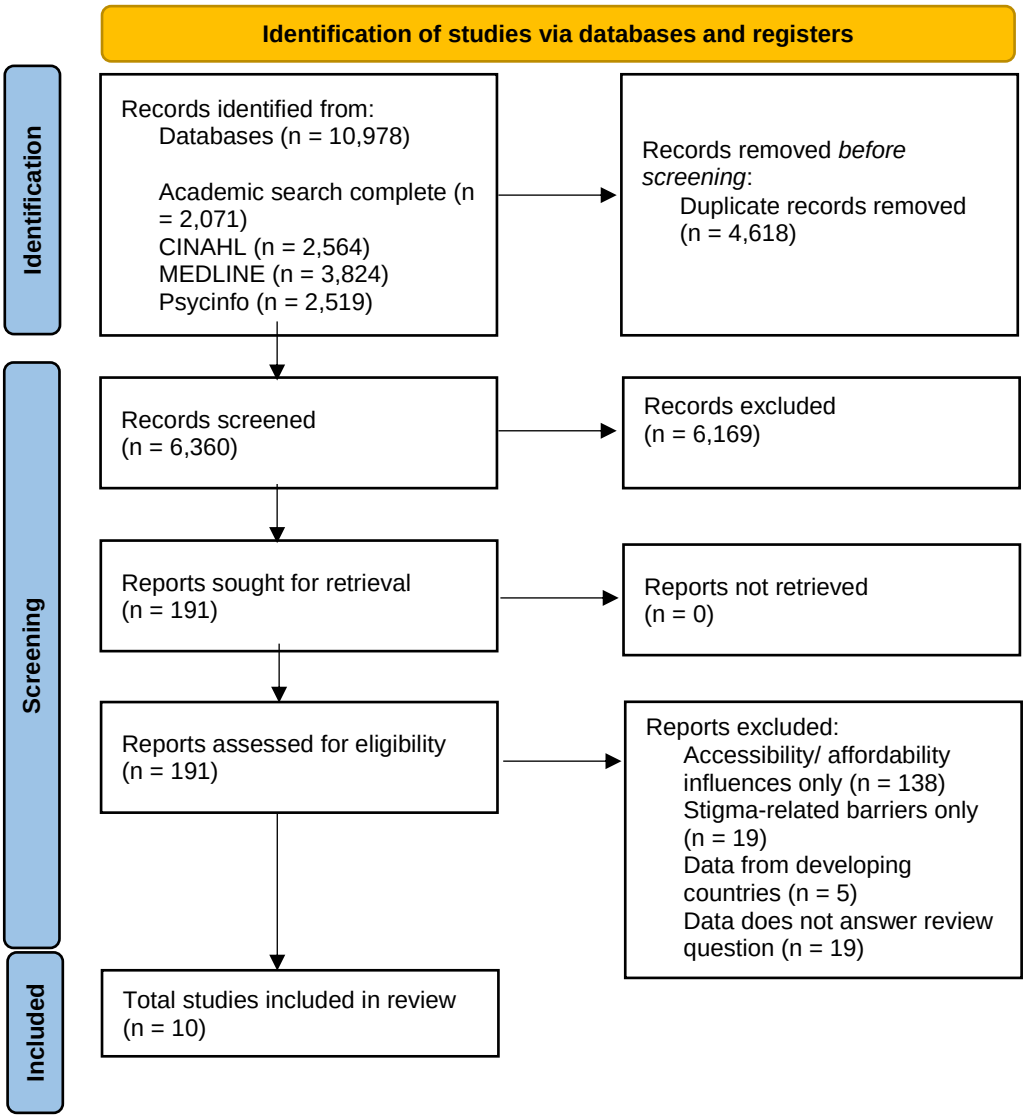


Table 1.2

Quality Assessment Outcome using the Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross-Sectional Studies

Author (year)	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure (poverty) measured in an objective and standard way?	Was the condition (mental health) measured in a valid and reliable way?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were the outcomes (acceptability) measured in a valid and reliable way?	Was appropriate statistical analysis used?
Dasberg et al (1984)	✓	✓	✓	×	✓	×	×	✓
De Rosa et al (1999)	✓	✓	✓	×	✓	✓	×	✓
Duhoux et al (2017)	✓	✓	✓	✓	✓	✓	×	✓
Kim et al (2007)	✓	✓	×	✓	✓	✓	×	✓
Larson et al (2013)	✓	✓	×	×	×	✓	✓	✓
Martin & Howe (2016)	✓	✓	✓	×	✓	✓	✓	✓
Murry et al (2011)	✓	✓	×	✓	✓	✓	✓	✓
Packness et al (2019)	✓	✓	✓	✓	✓	✓	✓	✓
Tsang et al (2020)	✓	✓	✓	✓	✓	✓	✓	✓
Weaver et al (2020)	✓	✓	✓	✓	✓	✓	×	✓

Table 1.3

Study Characteristics

Author & study year	Type of study	Country	Sample size	Recruitment
Dasberg et al (1984)	Observational: Cross sectional	Israel	233	Adults randomly selected from 3 community centres in areas of low-income. 99.1% participation rate
De Rosa et al (1999)	Observational: Cross sectional mixed methods	California, USA	296	Youth recruited between 1994-1995, from street-based sites, shelters and drop-in centres. 84% participation rate
Duhoux et al (2017)[a]	Observational: Prospective cohort	Canada	277	Single adults who were homeless or at risk of homelessness randomly selected from homeless services in 2009
Kim et al (2007)[b]	Observational: Cross-sectional	USA	154	Homeless adults recruited from inpatient and outpatient services using consecutive admissions and random selection. Data collected between 1997-98
Larson et al (2013)	Observational: Cross-sectional	Maryland, USA	55	Parents of children between 2 and 17 referred to a Childrens Mental Health Centre (CMHC) between 2008 and 2009. 76% participation rate
Martin & Howe (2016)	Observational: Case-control	California, USA	153	Homeless and at risk of homeless adolescents recruited from alternate community schools, drop-in centres and shelters.
Murry et al (2011)[c]	Observational: Prospective cohort, mixed methods	Georgia, USA	163	Families randomly selected from eight rural counties with 25% or more of the population being African American.
Packness et al (2019)[d]	Observational: Cross-sectional	Denmark	314	Participants randomly selected from two socially deprived areas. Recruitment between 2016–17
Tsang et al (2020)	Observational: Cross-sectional	Michigan, USA	120	Participants were recruited from a child and adolescent primary healthcare clinic. 17 recruited from a nearby church. Data collection period not reported
Weaver et al (2020)	Observational: Cross-sectional	Michigan, USA	57	Recruitment from a rural food bank. Data collection on a single day in July 2018. 78.1% participation rate

[a] Data from the Health and Housing in Transition (HHiT) study (Hwang et al., 2011)

[b] Sample from larger study (Rosenberg et al., 2001)

[c] Part of ‘‘The Families In It Together (FIIT) Project’’

[d] Data from the Lolland-Falster Health Study (LOFUS) (Jepsen et al., 2018)

Table 1.4

Participant Characteristics

Author & study year	Age (years)	Gender	Ethnicity	Highest level of education (ages)*	Employment	Socioeconomic status	Mental health status
Dasberg et al (1984)	Mean 29 Range 16-68	Female 46.4% Male 53.6%	Asian 13.7% European 9% Israeli 57.1% African 20.2%	Elementary level or less (6- 12) 35.2% Secondary school (12- 18 years) 49.8% Post-secondary (18+) 14.2%	Full time 40.8% Part time 22.3% Unemployed 9.4% Stay at home parent 27.5%	Sample from low-income neighbourhoods Educational level, occupational status & income	Current mental health status not reported. 30% had accessed mental health support in the past
De Rosa et al (1999)	Average not reported Range 12-23	Female 33% Male 67%	African American 24% Latino 16% White 43% Other 17%	Not reported	Not reported	Sample adolescents who are homeless or at imminent risk for homelessness Length of time of homelessness	Current mental health status not reported 9% had accessed psychological services in the past
Duhoux et al (2017)	Part of a larger study and demographic data not reported for this sample					Homeless or at risk of homelessness Housing Timeline Follow-Back Calendar- percentage of time housed in the last 12 months Educational level, income, health insurance status & employment status	Not reported for this sample
Kim et al (2007)	Median 38	Female 22.7%	White 48%	Not reported	Not reported	Homeless in the past 6 months	50% had below average mental health composite score indicating

Author & study year	Age (years)	Gender	Ethnicity	Highest level of education (ages)*	Employment	Socioeconomic status	Mental health status
	Range 18-60	Male 77.3%	Other ethnicities not reported			Health insurance status	more mental health problems in this sample. 47% had high psychiatric symptoms. 54% were above the cut off score for PTSD. Yet, 79% self-rated their mental health as excellent
Larson et al (2013)	Average not reported Range 2-18	Female 47% Male 54%	African-American 98% White/Non-Hispanic 2%	Not applicable	Not applicable	96% received Medical Assistance- indicative of limited income	Children referred for MH care for mood 49%, anxiety 5.5%, ADHD 32.7% and conduct problems 12.7% 53% of children had prior history of mental health treatment
Martin & Howe (2016)	Average not reported Range 12-21	Homeless: Female 51.8% Male 48.2% Housed: Female 38.5% Male 61.5%	Homeless: European-American 78.2% Youth of colour 21.8% Housed: European-American 48.5% Youth of colour 51.5%	Parents: Homeless Grade school (4-11) 12.8%, High school (14- 18) 43.5% College (18+) 43.7% Housed Grade school (4-11) 1.2% High school 42.9% College (18+) 55.9%	Parent employed full time: Homeless 28.6% Housed 48.5%	Homeless youth Educational status, parents' employment & benefit status	More homeless youth (83.6%) received mental health services in the past than housed youth (69%), $\chi 2$ (1) = 3.90, p = .048, V = .16

Author & study year	Age (years)	Gender	Ethnicity	Highest level of education (ages)*	Employment	Socioeconomic status	Mental health status
Murry et al (2011)	Children: mean 14 (SD .80) Range not reported	Female 100%	African American 100%	Mothers' education: high school (14- 18) 67%	Not reported	Sample from neighbourhoods with high poverty rates Average total monthly family income was $1,500 Mothers' education	Scores at or above clinical range: total Problem 23%; externalizing 22%; internalizing 15%
Packness et al (2019)	Mean 50 Median 57 Range 18-80+	Female 53% Male 47%	Not reported	Secondary school (12-18) 18.6% Post-secondary (18+) 80.5%	Employed 58%; Temporarily unemployed 3.7% Retired 35.6% Other 2.4%	Measured by employment status, educational attainment and financial strain 62% reported financial strain more than half the months	Individuals with scores indicating mild to severe depression included in the study
Tsang et al (2020)	Mean 14 (SD 1.52) Range 13-18	Female 70% Male 30%	African American/Black 82% Latino-American 1.8% White 2.7% Other 13.5%	Did not finish high school (14- 18) 20.8% High school 79.2%	Not reported	Low-income area 64.5% of sample had an annual family income <$30,000 Caregiver educational status	43.3% adolescents at or above clinical range for behavioural and emotional problems as rated by caregivers (25.8% internalizing problems and 27.5% externalizing problems) 23.9% currently receiving mental health treatment. 49.2% had in the past
Weaver et al (2020)	Mean 45 (SD 16.8) Range 17-73	Female 63.2% Male 36.8%	African American/ Black 3.51% Latinx/ Hispanic 3.51%	8th grade or less (11- 13) 3.5%; 9-11th grade (14- 18) 57.9%	Full time 17.5% Part-time 10.5% Unemployed 31.6%; Retired 21.1%; Stay at	Material hardship indicated that on average one or two basic needs were not met in the last year Material hardship significantly higher on average, among those	49% screened positive for Major Depressive Disorder

Author & study year	Age (years)	Gender	Ethnicity	Highest level of education (ages)*	Employment	Socioeconomic status	Mental health status
			Native American 3.51% White 95% Other 1.75%	College (18+) 38.6%	home parent 10.5%	who screened positive for depression (M = 2.22; SD = 1.74) compared to those who did not screen positive for depression (M = 1.21; SD = 1.00; U = 262.0; p= .04) Educational level & employment status	

* Due to differences in school systems ages have been included to provide comparison

Table 1.5

Acceptability Outcomes

Author & study year	Outcome measure	Summary of findings
Dasberg et al (1984)	The survey included questions about attitudes towards mental health. The survey was designed for this study	Perceived effectiveness: 34% thought a mental health professional (MHP) was more likely to harm than to help; 37% thought a MHP does no more than to tell the patient what they already know about themselves; 48% felt talking to be an ineffectual means of dealing with a problem Affective attitude: Those more accepting of psychologist were significantly more likely to be younger, have higher SES and be more educated than those who were rejecting of psychologist Trend that those holding less negative attitude towards mental health were more educated and had higher SES than those who see mental health difficulties as unsolvable
De Rosa et al (1999)	Satisfaction with service measured by asking: "How satisfied were you with the service?" Response categories included: "very satisfied, "somewhat satisfied" or "not at all satisfied."	Affective attitude: Mean level of satisfaction for psychological services 2.56, +/-SD 0.58 (mean levels are based on scale: 1= not at all satisfied; 2- somewhat satisfied; 3= very satisfied). Gender and age showed no relationship with level of satisfaction
Duhoux et al (2017)	Assessed unmet mental healthcare need by asking (1) "Have you needed mental healthcare in the past 12 months but were not able to get help?" and if so (2) "What are the reasons that you were unable to access mental healthcare?"	Acceptability: Homeless and at risk of homelessness groups combined for data analysis based on comparable baseline characteristics. Acceptability issues identified by 21.3% of sample to explain unmet mental healthcare need. Differences in prevalence of acceptability barriers noted by location: Vancouver (30.6%); Toronto (13.4%); Ottawa (16.2%) Variation in population characteristics could be one explanation for between-city differences. Vancouver had a significantly younger sample than Toronto, and Ottawa ($P = 0.004$)
Kim et al (2007)	Asked ten questions about reasons for not seeking care- five questions related to acceptability	Perceived effectiveness: 40% thought going for help probably wouldn't do any good Affective attitude: 49% thought their problem would get better by itself Self-efficacy: 55.8% wanted to solve the problem on their own 36.2% of the sample reported barriers to accessing mental healthcare. Recently homeless, male (OR = 3.36, $P < .05$), White (OR = 2.82, $P < .05$) participants were significantly more likely to report mental healthcare barriers. Fewer mental health problems (OR = .26, $P < .05$) was significantly associated with the lower probability of reporting mental healthcare barriers.
Larson et al (2013)	Barriers to children's mental healthcare survey assessing parental perceptions of mental health treatment, identifying tangible and intangible barriers	Perceived effectiveness: 96% believed their child could be helped by mental health treatment 87% felt the doctor/nurse understood their child

Author & study year	Outcome measure	Summary of findings
		Affective attitude: 15% believed their child's problems were not bad enough for mental health treatment 12% felt their child did not need mental health treatment High levels of intangible barriers were associated with decreased odds of attending a mental health evaluation (adjusted OR 0.20 (0.06–0.83; P = 0.03). Perception of past mental health treatment was not associated with the likelihood of attending the first mental health evaluation (X^2, 1 = 0.24, P = 0.62)
Martin & Howe (2016)	The Inventory of Attitudes Toward Seeking Mental Health Services Scale	Affective attitude: ANOVA demonstrated both homeless and housed youth have similar attitudes toward mental health services. However, there was a trend for more homeless youth to report satisfaction with their mental health services compared to housed youth, $\chi 2$ (1) = 0.40, p = .53, V = .0 Homeless and housed groups did significantly differ in age, $\chi 2$ (2) = 26.35, p < .001, V = .42, and ethnicity, $\chi 2$ (1) = 12.84, p < .001, V = .29). No differences between age groups or ethnic groups on attitudes toward mental health services
Murry et al (2011)	The Perceived Help-Seeking Behavior Scale	Cultural competence: 30.8% of mothers agreed that White professionals could not understand the problems of African-American families 17% were suspicious that White professionals would not treat my child as well as s/he would treat a White child Perceived effectiveness: 17.9% thought involving professionals in family lives would ‘‘make everything worse’’ 87% trusted professionals and were confident they could help Affective attitude: 93% were willingness to seek help for their children
Packness et al (2019)	Five questions inspired by the Barriers to Access to Care Evaluation questionnaire. Questions about knowledge, stigma, transport, expense and experience of access mental healthcare	Less than half of sample perceived no problems in accessing professional care Perceived effectiveness: 18.8% perceived negative experience of mental health services. Retired respondents were more likely to perceive bad experience with mental health services compared with respondents who were working
Tsang et al (2020)	Attitude Toward Seeking Professional Psychological Help–Short Form	Affective attitude: Family income was significantly negatively associated with adolescent reported attitude toward professional psychological help (r = .20, p = .04). As family income increased so did youth disproval with seeking professional mental health services

Author & study year	Outcome measure	Summary of findings
		Adolescents attitude toward professional psychological help was not a significant predictor of current mental health service use (ß = -.01, p =.96)
Weaver et al (2020)	Twelve items based on the National Comorbidity Survey Replication (Mojtabai et al., 2011). Seven items addressed structural barriers; five items addressed attitudinal/evaluative barriers	Self-efficacy: Fourth most commonly endorsed barrier to mental healthcare was wanting to handle problems on my own (26.3%). A non-significant, trend emerged between depressed and non-depressed participants (40.7% v. 14.3%; p= .07) Affective attitude: Depressed participants were significantly more likely than non-depressed to think I will get better on my own (29.6% v. 3.57%; p= .02). My problem was/is not severe enough to get help (22.8%) Perceived effectiveness: I do not think treatment will work for me (12.3%). A non-significant, trend emerged between depressed and non-depressed participants (22.2% v. 3.57%; p= .10)

Table 1.6

Assessment Measures used within the Included Studies

Measures of mental health status		
Assessment measure	Description	Studies using measure
Child Behavior Checklist (CBCL) (Achenbach, 1999)	Measures internalizing (e.g., emotional distress) and externalizing difficulties (e.g., aggression and delinquency) in children. Higher scores on the measure indicate more clinical-level problems. The measure has been widely used in clinical practice and research, demonstrating good reliability and validity (Dutra et al., 2004)	Murry et al (2011) Tsang et al (2020)
Major Depression Inventory (MDI)	Based on the International Classification of Disease (ICD-10) diagnostic criteria for depressive disorder. 12 items rated on Likert Scale with scores ranging from 0- 50 (mild depression 21- 25, moderate depression 26- 30, severe depression 31- 50). Adequate internal and external validity for defining different stages of depression (Olsen et al., 2003)	Packness et al (2019)
The Post-Traumatic Checklist—Civilian Version (PCL)	Provides symptom ratings matching the diagnosis of PTSD in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-4). 17 items with scores ranging from 17- 85 (<29 little severity, 28- 29 some symptoms, 30- 44 moderate symptoms, 45- 85 high severity). Highly internally consistent ($\alpha = .92$) and good retest reliability ($r = .66$) (Conybeare et al., 2012)	Kim et al (2007)
Patient Health Questionnaire (PHQ-2)	Screening tool for depression. Scores ≥ 3 indicate a positive screen for Major Depressive Disorder (MDD). Sensitivity of 83% and a specificity of 90% for MDD, with excellent construct and criterion validity (Kroenke et al., 2003)	Weaver et al (2020)
12-item Short Form Survey (SF-12)	Physical Component Summary (PCS) and mental health Component Summary (MCS) scores from zero to 100, with scores higher than 50 indicating above average health status. Sound psychometric properties (Ware et al., 1996). Mosier's alpha of 0.69 for the MCS, indicating strong internal consistency (Huo et al., 2018)	Duhoux et al (2017) Kim et al (2007)

Measures of psychological factor of acceptability		
Attitude Toward Seeking Professional Psychological Help–Short Form (ATSPPT) (Fischer & Farina, 1995)	Measures overall attitudes about mental health and attitudes about the effectiveness of mental healthcare. The survey consists of ten statements rated on a Likert-type scale from zero to three (1 = Disagree, 2 = Partly Disagree, 3 = Partly Agree, 4 = Agree). Higher scores reflect more positive attitude toward seeking formal mental health services. Acceptable reliability demonstrated (α = .70 and .79)	Tsang et al. (2020)
Barriers to Children's Mental Health Care Survey (Larson et al., 2013)	23 questions assessing parental perceptions of mental health treatment and potential barriers in seeking mental healthcare. Barriers and perceptions included three categories: (1) tangible barriers (e.g., transportation problems, difficulty navigating the healthcare system); (2) intangible barriers (e.g., stigma, fears about medications); and (3) the caregivers' sense of the child's functioning. Two types of 6-point Likert scale questions were used: ''not a problem'' to ''major problem'' and ''very strongly disagree'' to ''very strongly agree'' Acceptable reliability demonstrated for each subscale (α = .70)	Larson et al. (2013)
The Inventory of Attitudes Toward Seeking Mental Health Services Scale (IASMHS) (MacKenzie et al., 2004)	A 24-item survey comprising three subscales: psychological openness, help-seeking propensity, and concern for mental health stigma. Higher scores represent more positive attitudes toward mental health services. Higher scores on the concern for stigma subscale mean more negative attitudes toward mental health services. Acceptable reliability demonstrated (α = .71)	Martin and Howe (2016)
The Perceived Help-Seeking Behavior Scale (PHSBS) (Brannan & Heflinger, 2006)	Six subscales included: six domains: (1) mother's lack of willingness to seek care, (2) child's lack of willingness to participate in treatment, (3) cultural mistrust of service providers, (4) general mistrust of service providers, (5) lack of social support if services were sought, and (6) stigma associated with children's problems or seeking mental health services for them. Acceptable reliability demonstrated for each subscale (ranging from α = .65 to α = .78)	Murry et al. (2011)

Appendices

Appendix 1A: SSM- Mental Health Author guidelines

Aims and scope

SSM - Mental Health (SSM-MH) provides an international and interdisciplinary forum for the dissemination of social science research on mental health and behavioral health.

SSM - Mental Health shares the same general approach to manuscripts as its companion title, Social Science & Medicine. The journal takes a broad view of the field of mental and behavioral health, especially welcoming interdisciplinary papers from across the Social Sciences and allied areas.

We publish original research articles (both empirical and theoretical), reviews, position papers, and commentaries on mental health issues, to inform current research, policy, and practice in all areas of common interest to social scientists, health practitioners, and policy makers. We also publish Series, a unique format which combine 2-3 related articles around a similar theme or context.

The journal publishes material relevant to any aspect of mental health and behavioral health from a wide range of social science disciplines (anthropology, sociology, psychology, psychiatry, epidemiology, implementation science, population health science, and public health), and material relevant to the social sciences from any of the professions concerned with mental health, health care, clinical practice, and health policy. We encourage material that is motivated by a theoretical framework and of general interest to an international readership.

The three key areas of SSM-MH are:

Implementation Science and Intervention Research

Medical Anthropology and Critical Social Science

Psychiatric Epidemiology and Population Mental Health Science

Topics and approaches of particular relevance to the journal include: interdisciplinary methods and theory; social determinants of mental health and disparities in mental health; mixed-methods research; methodological notes; replication studies of novel mental health interventions; psychiatric epidemiology; and research on flourishing, resilience, and well-being.

SSM-MH seeks to maintain the highest standards of peer-reviewed excellence, as well as to provide a forum for debate in the field of social sciences and mental health.

Article structure

Subdivision - numbered sections

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the

text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

• **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

• **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in

front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

• **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

• **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights

Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical abstract

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, it is recommended to include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body.

Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, Crossref and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

Preprint references

Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to

your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference style

Text: All citations in the text should refer to:

1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;

2. *Two authors:* both authors' names and the year of publication;

3. *Three or more authors:* first author's name followed by 'et al.' and the year of publication. Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999)…. Or, as demonstrated (Jones, 1999; Allan, 2000)… Kramer et al. (2010) have recently shown …'

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Journal abbreviations source

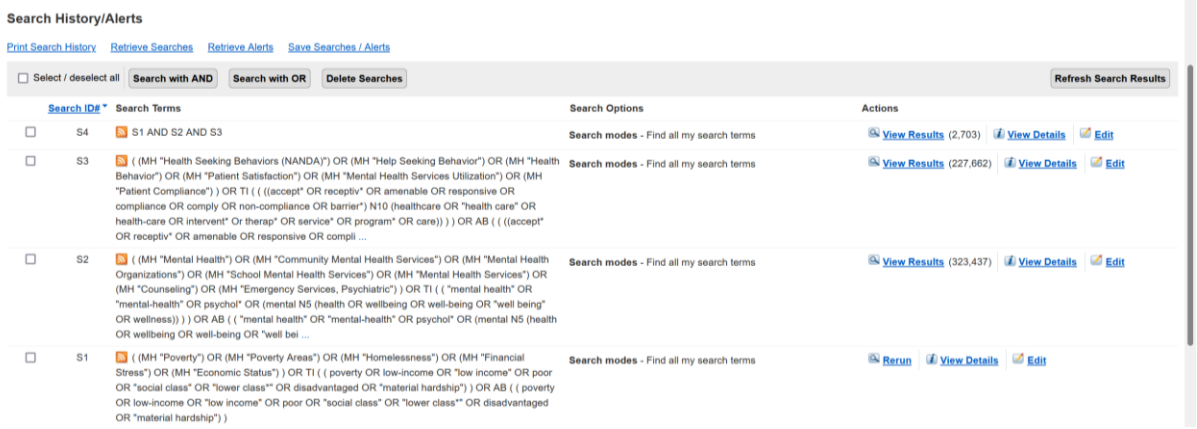
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Appendix 1B: Theoretical Framework of Acceptability Constructs

Acceptability constructs	Definition
Affective Attitude	How an individual feels about the intervention
Burden	The perceived amount of effort that is required to participate in the intervention
Ethicality	The extent to which the intervention has good fit with an individual's value system
Intervention Coherence	The extent to which the participant understands the intervention and how it works
Opportunity Costs	The extent to which benefits, profits or values must be given up to engage in the intervention
Perceived Effectiveness	The extent to which the intervention is perceived as likely to achieve its purpose
Self-efficacy	The participants confidence that they can perform the behaviour(s) required to participate in the intervention

Sekhon, M., Cartwright, M., & Francis, J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. BMC Health Serv. Res., 17(88). https://doi.org/10.1186/s12913-017-2031-8

Appendix 1C: Full search strategy for all databases including filters and limits used



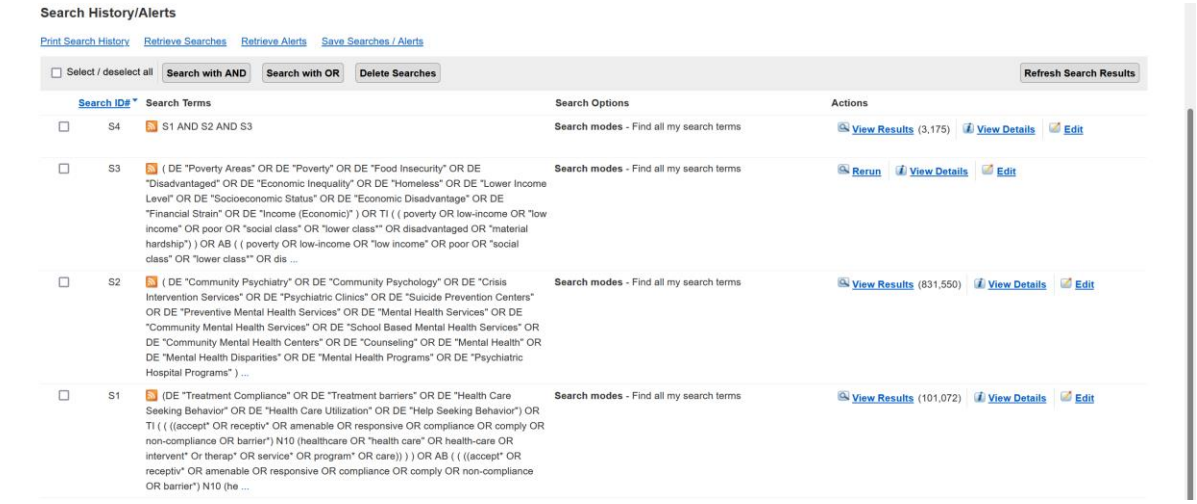
Search History/Alerts

Print Search History | Retrieve Searches | Retrieve Alerts | Save Searches / Alerts

Select / deselect all | Search with AND | Search with OR | Delete Searches | Refresh Search Results

Search ID#	Search Terms	Search Options	Actions
S4	S1 AND S2 AND S3	Search modes - Find all my search terms	View Results (2,703) | View Details | Edit
S3	((MH "Health Seeking Behaviors (NANDA)") OR (MH "Help Seeking Behavior") OR (MH "Health Behavior") OR (MH "Patient Satisfaction") OR (MH "Mental Health Services Utilization") OR (MH "Patient Compliance")) OR TI ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care)))) OR AB ((((accept* OR receptiv* OR amenable OR responsive OR compli ...	Search modes - Find all my search terms	View Results (227,662) | View Details | Edit
S2	((MH "Mental Health") OR (MH "Community Mental Health Services") OR (MH "Mental Health Organizations") OR (MH "School Mental Health Services") OR (MH "Mental Health Services") OR (MH "Counseling") OR (MH "Emergency Services, Psychiatric")) OR TI (("mental health" OR "mental-health" OR psychol* OR (mental N5 (health OR wellbeing OR well-being OR "well being" OR wellness)))) OR AB (("mental health" OR "mental-health" OR psychol* OR (mental N5 (health OR wellbeing OR well-being OR "well bei ...	Search modes - Find all my search terms	View Results (323,437) | View Details | Edit
S1	((MH "Poverty") OR (MH "Poverty Areas") OR (MH "Homelessness") OR (MH "Financial Stress") OR (MH "Economic Status")) OR TI ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship")) OR AB ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship"))	Search modes - Find all my search terms	Rerun | View Details | Edit

CINAHL search 6/7/2022 Returned 2,703. English and academic 2,564



Search History/Alerts

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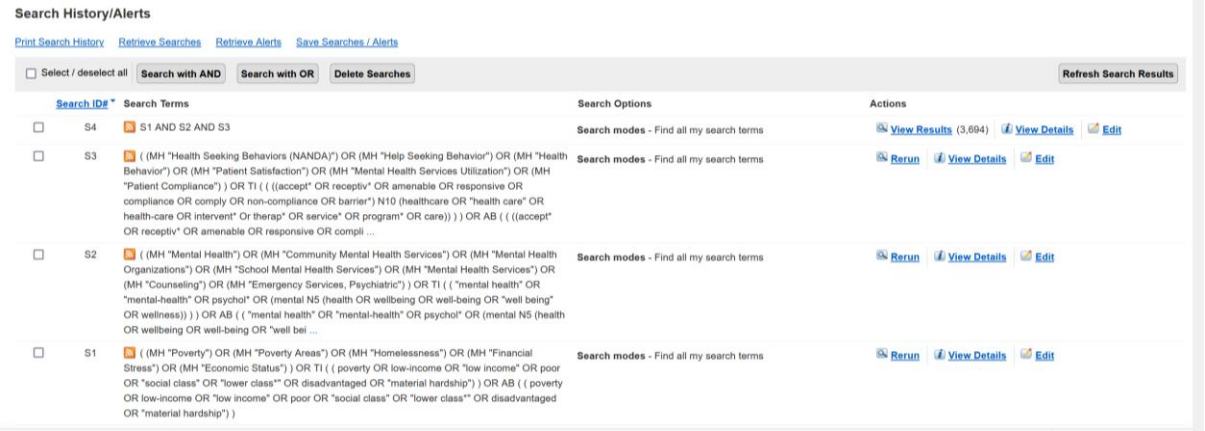
Select / deselect all | Search with AND | Search with OR | Delete Searches | Refresh Search Results

Search ID#	Search Terms	Search Options	Actions
S4	S1 AND S2 AND S3	Search modes - Find all my search terms	View Results (3,175) | View Details | Edit
S3	(DE "Poverty Areas" OR DE "Poverty" OR DE "Food Insecurity" OR DE "Disadvantaged" OR DE "Economic Inequality" OR DE "Homeless" OR DE "Lower Income Level" OR DE "Socioeconomic Status" OR DE "Economic Disadvantage" OR DE "Financial Strain" OR DE "Income (Economic)") OR TI ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship")) OR AB ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR dis ...	Search modes - Find all my search terms	Rerun | View Details | Edit
S2	(DE "Community Psychiatry" OR DE "Community Psychology" OR DE "Crisis Intervention Services" OR DE "Psychiatric Clinics" OR DE "Suicide Prevention Centers" OR DE "Preventive Mental Health Services" OR DE "Mental Health Services" OR DE "Community Mental Health Services" OR DE "School Based Mental Health Services" OR DE "Community Mental Health Centers" OR DE "Counseling" OR DE "Mental Health" OR DE "Mental Health Disparities" OR DE "Mental Health Programs" OR DE "Psychiatric Hospital Programs") ...	Search modes - Find all my search terms	View Results (831,550) | View Details | Edit
S1	(DE "Treatment Compliance" OR DE "Treatment barriers" OR DE "Health Care Seeking Behavior" OR DE "Health Care Utilization" OR DE "Help Seeking Behavior") OR TI ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care)))) OR AB ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (he ...	Search modes - Find all my search terms	View Results (101,072) | View Details | Edit

Psycinfo search 6/7/2022 Returned 3,175. English and academic 2,519



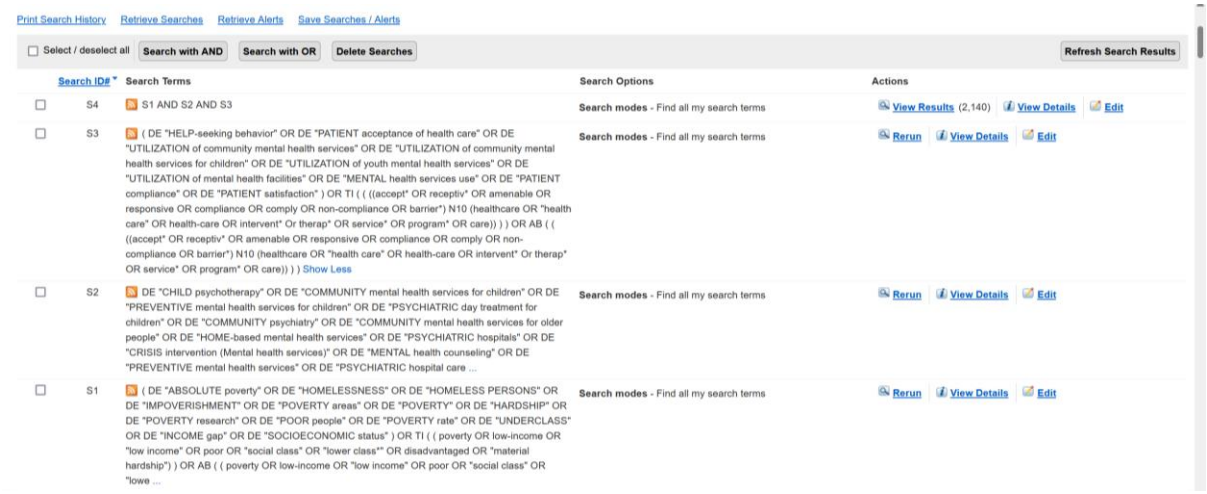
Search History/Alerts

Print Search History | Retrieve Searches | Retrieve Alerts | Save Searches / Alerts

Select / deselect all | Search with AND | Search with OR | Delete Searches | Refresh Search Results

Search ID#	Search Terms	Search Options	Actions
S4	S1 AND S2 AND S3	Search modes - Find all my search terms	View Results (3,694) | View Details | Edit
S3	((MH "Health Seeking Behaviors (NANDA)") OR (MH "Help Seeking Behavior") OR (MH "Health Behavior") OR (MH "Patient Satisfaction") OR (MH "Mental Health Services Utilization") OR (MH "Patient Compliance")) OR TI ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care)))) OR AB ((((accept* OR receptiv* OR amenable OR responsive OR compli ...	Search modes - Find all my search terms	Rerun | View Details | Edit
S2	((MH "Mental Health") OR (MH "Community Mental Health Services") OR (MH "Mental Health Organizations") OR (MH "School Mental Health Services") OR (MH "Mental Health Services") OR (MH "Counseling") OR (MH "Emergency Services, Psychiatric")) OR TI (("mental health" OR "mental-health" OR psychol* OR (mental N5 (health OR wellbeing OR well-being OR "well being" OR wellness)))) OR AB (("mental health" OR "mental-health" OR psychol* OR (mental N5 (health OR wellbeing OR well-being OR "well bei ...	Search modes - Find all my search terms	Rerun | View Details | Edit
S1	((MH "Poverty") OR (MH "Poverty Areas") OR (MH "Homelessness") OR (MH "Financial Stress") OR (MH "Economic Status")) OR TI ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship")) OR AB ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class*" OR disadvantaged OR "material hardship"))	Search modes - Find all my search terms	Rerun | View Details | Edit

MEDLINE search 6/7/2022 Returned 3,916. English and academic 3,824



Print Search History | Retrieve Searches | Retrieve Alerts | Save Searches / Alerts

Select / deselect all | Search with AND | Search with OR | Delete Searches | Refresh Search Results

	Search ID#	Search Terms	Search Options	Actions
☐	S4	S1 AND S2 AND S3	**Search modes** - Find all my search terms	View Results (2,140) | View Details | Edit
☐	S3	(DE "HELP-seeking behavior" OR DE "PATIENT acceptance of health care" OR DE "UTILIZATION of community mental health services" OR DE "UTILIZATION of community mental health services for children" OR DE "UTILIZATION of youth mental health services" OR DE "UTILIZATION of mental health facilities" OR DE "MENTAL health services use" OR DE "PATIENT compliance" OR DE "PATIENT satisfaction") OR TI ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care)))) OR AB ((((accept* OR receptiv* OR amenable OR responsive OR compliance OR comply OR non-compliance OR barrier*) N10 (healthcare OR "health care" OR health-care OR intervent* Or therap* OR service* OR program* OR care)))) Show Less	**Search modes** - Find all my search terms	Rerun | View Details | Edit
☐	S2	DE "CHILD psychotherapy" OR DE "COMMUNITY mental health services for children" OR DE "PREVENTIVE mental health services for children" OR DE "PSYCHIATRIC day treatment for children" OR DE "COMMUNITY psychiatry" OR DE "COMMUNITY mental health services for older people" OR DE "HOME-based mental health services" OR DE "PSYCHIATRIC hospitals" OR DE "CRISIS intervention (Mental health services)" OR DE "MENTAL health counseling" OR DE "PREVENTIVE mental health services" OR DE "PSYCHIATRIC hospital care ...	**Search modes** - Find all my search terms	Rerun | View Details | Edit
☐	S1	(DE "ABSOLUTE poverty" OR DE "HOMELESSNESS" OR DE "HOMELESS PERSONS" OR DE "IMPOVERISHMENT" OR DE "POVERTY areas" OR DE "POVERTY" OR DE "HARDSHIP" OR DE "POVERTY research" OR DE "POOR people" OR DE "POVERTY rate" OR DE "UNDERCLASS" OR DE "INCOME gap" OR DE "SOCIOECONOMIC status") OR TI ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lower class"" OR disadvantaged OR "material hardship")) OR AB ((poverty OR low-income OR "low income" OR poor OR "social class" OR "lowe ...	**Search modes** - Find all my search terms	Rerun | View Details | Edit

Academic search 6/7/2022 Returned 2,140. English and academic journal 2,071

Appendix 1D: Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross Sectional Studies

JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies

Reviewer_____Date_____

Author _____Year_____Record Number_____.

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	☐	☐	☐	☐
2. Were the study subjects and the setting described in detail?	☐	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	☐	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	☐	☐	☐	☐
5. Were confounding factors identified?	☐	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	☐	☐	☐	☐
8. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____

_____

_____

Section Two: Empirical Paper

Food insecurity and the role of shame in psychological distress. A cross-sectional study.

Stephanie Walsh

Doctorate in Clinical Psychology

Lancaster University

Formatted for submission to the SSM- Mental Health (Author Guidelines attached in Appendix 2A)

Word Count (including Abstract but excluding references, appendices, figures and tables):

7957

Correspondence should be addressed to:

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Abstract

Food insecurity is commonly defined as “limited or uncertain availability of nutritionally adequate and safe foods” (Taylor & Loopstra, 2016), and is an increasing global issue. This study focused on food insecurity in the United Kingdom considering this issue within the political, economic and environmental context of this country. Food insecurity has been associated with poorer mental health and feelings of shame concerning finances and perceived negativity.

The aim of this research was to understand 1) the relationship between food insecurity and psychological distress (depression, anxiety and stress) and 2) whether shame moderates the relationship between these variables. The findings will have direct implications for those working in mental health settings.

Participants were aged 18+ and self-identified as food insecure within the previous six months. A cross-sectional survey was conducted online and via paper copies. The survey consisted of measures of food insecurity, psychological distress and shame. The study was advertised across social media platforms and via food aid organisations (North-West England).

The study findings show that food insecurity and shame account for 74% of the variance in psychological distress in people who report food insecurity. No moderation was found suggesting the relationship between food insecurity and psychological distress is not moderated by shame. However, a significant interaction may not have been found, as the study may have been underpowered.

The findings of this research have implications for those working in both mental health services and food aid organisations and these are discussed.

Keywords: food insecurity, shame, psychological distress, poverty, mental health

1. Introduction

Food insecurity is an economic social determinant commonly defined as: “limited or uncertain availability of nutritionally adequate and safe foods” (Taylor & Loopstra, 2016). It also indicates financial hardship. The global rate of food insecurity is expected to be 345.2 million people in 2023 - more than double the number in 2020 (World Food Programme, 2023). Conflict, food shortages, climate change and economic instability all contribute (World Food Programme, 2023). Current strategies to manage food insecurity in high-income countries focus on diverting food waste to people in need, but this lacks an understanding of the contribution of social inequalities, such as poverty (Pollard & Booth, 2019). Promisingly however, The United Nations have made a commitment to end poverty and hunger, and reduce income inequalities by 2030 (United Nations Development Programme, 2023). If these goals are achieved, levels of food insecurity should decrease. Food insecurity occurs in well-developed relatively wealthy nations and the present study focusses on this context.

1.1 Food insecurity in the United Kingdom (UK)

The UK is a wealthy Western country and there is some degree of consistency in terms of environmental, economic and political context. In the UK, it is only since 2019 that data on the prevalence of food insecurity have been collected. Previously, prevalence could only be estimated indirectly and this limited understanding of the problem. The most recent UK data indicated that in January 2023 17.7% of UK households experienced food insecurity (ate less or went a day without eating because they couldn’t access or afford food), an increase from 8.8% in January 2022 (The Food Foundation, 2023). Policy decisions such as changes to the benefits system, funding cuts to services and low salary contracts have been implicated in contributing to increases in food insecurity (Bramley et al., 2021). But further difficulties can be explained by rising costs of living (Francis-Devine et al., 2022), the global pandemic (Bhattacharya & Shepherd, 2020; Goudie & McIntyre, 2021) and recent conflict

(World Food Programme, 2022). Bramley et al. (2021) noted that the Trussell Trust distributed 84% more food parcels during the pandemic. Furthermore, increases in food insecurity vary and affects the following more severely: households with children, those receiving benefits, those with disabilities, or those from minority ethnic groups (Francis-Devine et al., 2022). Women have also been found to experience higher rates of food insecurity than males (Martin et al., 2016). Sadly, many of these groups already experience some form of disadvantage.

As discussed, context is important; therefore, it should be noted that this study covers a period in which the management of COVID-19 increased the number of people experiencing food insecurity (Bhattacharya & Shepherd, 2020; Francis-Devine et al., 2022; World Food Programme, 2023). Food shortages and lockdown measures made it more difficult to access adequate food and food aid organisations were prevented from operating as usual (Bramley et al., 2021).

1.2 Impact on Psychological well-being

Food insecurity has implications for psychological well-being. Maslow (1943) proposed that basic human needs, such as the need for food, take precedence over higher psychosocial needs. Consequently, it is only when these basic needs are met that a person will be motivated to fulfil the need for social connection and wellbeing. The Social Determinants of Health (SDH) framework expands upon this to include systemic influences on individual and contextual factors related to health (World Health Organisation, 2010). The framework outlines the relationship between the socioeconomic and political contexts and the influence these have, through intermediary factors, on health. Intermediary factors include material circumstance (housing, finances and neighbourhood), psychosocial factors (stress, social support and coping styles) and behaviour factors (lifestyle). The ecological systems

theory (Bronfenbrenner, 1979) facilitates an understanding of the interactions between these factors. For instance, at a macrosystems level, the UK has a consumerist culture whereby position in society is based on ability to spend (Hewlett et al., 2022) and being unable to afford necessities falls short of this expectation. At an exosystems level, food insecurity is influenced by many structural factors; including, Government austerity policies. These policies, such as tax increases, heightens stress related to finances and impact on spending. At the microsystems level, reduction in spending could involve cutting down on social activities or essentials such as food and heating, which may lead to worsening mental health. Again, particular groups are more likely to experience difficulties with psychological wellbeing as a result of financial hardship. For instance, the risk of depression and stress has been shown to be higher for males and people aged over 65 years in food insecure populations (Pourmotabbed et al., 2019).

Reviews of the relationship between food insecurity and mental health have concluded that food insecurity has a significant effect on the likelihood of experiencing stress, depression, or anxiety (Arenas et al., 2019; Myers, 2020; Pourmotabbed et al., 2019). One explanation suggests it is the deprivation of a basic need, leading to worries about where the next meal will come from, which influences the relationship (Weaver et al., 2021). Others have proposed that it is deficiencies in nutrition which are linked to poor mental health (Dash et al., 2015; Lai et al., 2012), but the evidence here is inconsistent (Hadley & Crooks, 2012). A further idea is that food plays a role in social relationships, identity and status, and failing to meet expectations in these areas affects mental health (Dressler et al., 2007). These positions are not exclusive of each other and there is agreement that the associations between food and mental health are multifaceted.

Most research in this area is observational, meaning that the direction of the relationship between these variables cannot be determined. Therefore, it is important to note

that mental illness can have negative implications for employment, income level and consequently the ability to afford basic necessities (Ridley et al., 2020).

1.3 Shame

In addition to psychological distress, food insecurity has been associated with shame. Shame is an intense, universal human emotion (Ferreira et al., 2022) occurring when a person believes they are, or are perceived by others to be flawed, inadequate or deviating from sociocultural norms (Brown, 2006; Dolezal & Lyons, 2017). Distinctions have been made between external and internal shame. Internal shame relates to how individuals judge themselves, with attention focused inwards, whereas external shame is about how an individual thinks they are judged by others, with attention focused outwards (Gilbert, 2003). As discussed, food insecurity is influenced by many structural issues; yet at the exosystems level, food insecurity can be seen as the fault of the individual (Bruckner, 2021). Particularly within the mainstream media where people who struggle to meet this standard are blamed and stigmatised (Hewlett et al., 2022; McKendrick et al., 2008; Purdam et al., 2016). Individuals may then internalise the blame expressed by society contributing to feelings of shame (Walker et al., 2013).

At a microsystems level, comparison of life circumstances to others can drive feelings of shame and worthlessness, particularly for individuals experiencing deprivation (Raphael, 2006). Supporting this notion, Pollard and Booth (2019) suggest it is the inequality i.e. relative poverty, within wealthy countries that fuels feelings of inferiority. Furthermore, people who use food aid in wealthy countries experience stigma, shame, and hopelessness (Middleton et al., 2018; Purdam et al., 2016). They report shame about others knowing (Bernal et al., 2016) and being unable to adequately provide food for themselves and their families (Coates et al., 2006). Food aid organisations influence the experience of shame at the

exosystems level through the ways in which they operate. Some organisations require a referral before food aid can be accessed and this has been experienced as a person having to prove their worthiness of food aid (Bruckner, 2021; McNaughton et al, 2021).

Considering the bi-directional nature of this relationship, feelings of shame have also been identified as barriers to accessing food aid (Bhattacharya & Shepherd, 2020; Booth, 2006; Coates et al., 2006; Middleton et al., 2018; Purdam et al., 2016). Food aid may only be accessed as a last resort, due to the wish to prevent others becoming aware of their circumstances and negatively judging them (Gundersen & Oliveira, 2001; Middleton et al., 2018). Other management strategies developed to obtain food in response to food insecurity may also be considered shameful; for example, stealing, sending children to eat with others (Nanama & Frongillo, 2012), borrowing money for food or purchasing food on credit (Wolfe et al., 2003).

1.4 Rationale for study

Currently, measures of food insecurity focus on the uncertainty and insufficiency of food and the impact on mental health. However, little is known about the influence of shame on related psychological distress. Qualitative research has indicated the unacceptability of strategies aimed at accessing food (Bernal et al., 2016), in addition to not wanting others to know about experiences of food insecurity (Pineau et al., 2021; Swales et al., 2020).

The aim of this paper was to understand the emotional experience of food insecurity, including how this may be influenced by perceptions about the self. Being food insecure is considered shameful, perhaps due to feelings of inadequacy or believing others perceive them as such (Brown, 2006; Dolezal & Lyons, 2017). Shame was selected as a moderator to explore the relationship between thoughts and feelings of being food insecure and psychological distress. Whilst other factors have been associated with food insecurity the

focus of this paper was on the emotional evaluation of the self in relation to food insecurity; rather than an evaluation of the act of being unable to provide food (guilt) (Brown, 2017) or the processes by which shame may be elicited i.e., blame (Jo, 2013) and self-criticism (Gilbert & Proter, 2006).

Understanding the role of shame on the psychological distress experienced by individuals who are food insecure will have direct implications for those working in mental health settings. Given the relationship between food insecurity and poorer mental health, clinical psychologists and other mental health professionals are likely to work with individuals who are struggling to provide enough food for themselves or their household. A role of mental health professionals may be to facilitate access to means of obtaining food (through signposting to a food aid organisation), or by working with feelings of shame. Additionally, Shim and Compton (2020) argue that it is the responsibility of mental health professionals to influence public polices and social norms to improve the mental health of the population.

This study aims to consider the relationship between food insecurity and psychological distress (depression, anxiety and stress) and whether shame moderates the relationship between these variables. The assumption is that shame (perception of self and feeling judged by others) will affect the strength of the relationship between food insecurity and psychological distress. The study will therefore consider levels of psychological distress in a sample who are experiencing food insecurity. Hypothesising that 1) there will be a positive correlation between food insecurity and psychological distress, 2) there will be a positive correlation between food insecurity and shame, and 3) shame will moderate the relationship between food insecurity and psychological distress. That is that psychological distress linked to food insecurity will be greatest when levels of shame are highest.

As demographic factors may have confounded the relationship between the study variables, correlations were conducted to identify any significant associations. Furthermore, a series of hierarchical multiple regression models were developed to examine the independent effects of significant demographic variables, food insecurity and shame on psychological distress.

2. Method

2.1 Study design

A cross-sectional survey design was used to gather data on food insecurity, psychological distress and shame for a sample of individuals who have experienced food insecurity. Key demographic details such as; age, gender, household status, occupational status and ethnicity were also collected.

Primarily, recruitment was through an online approach to facilitate data collection across the UK. A poster advertising the study with a link to the Qualtrics survey were distributed via online social media platforms (see Appendix 2B). Online recruitment focused on pages with an interest in food poverty and was compatible for completion on a PC, tablet or mobile phone to facilitate accessibility. It was recognised that an online survey may not be feasible for some individuals requiring the use of food aid. Therefore, paper copies of the survey, along with stamped addressed envelopes, were available at a limited number of local organisations providing food aid (North-West England).

Ethical approval was obtained from the Faculty of Health and Medicine Research Ethics Committee at Lancaster University.

2.2 Participants

Participants were eligible if they were 18 years or older, living in the UK and self-identified as having experienced food insecurity within the six months prior to completing the survey.

It was estimated that a minimum sample size of 127 participants was required for a moderation analysis to detect a medium effect size (.15), with an alpha of .05 and a standard power level of .8 when three predictors are included (Warner, 2012).

2.3 Measures

The survey had 39 questions, plus demographic questions, taking less than 10 minutes to complete. Prior to recruitment, feedback on the content and layout of the study materials was obtained from a small group of attendees, volunteers and staff at a food aid location. Where feasible this feedback was acted upon and informed the final version of the study materials. Suggestions made by the group included: using images in the study poster to enhance visibility; increasing the font size on the poster to improve readability; and including a photograph of the main researcher to make the study more personable. From their own experience, staff suggested keeping text to a minimum when posting on social media, as this increases the likelihood of the post being read. A comment was made about the survey being too long; however, it was felt that careful consideration had been made about the measures and questions included and no changes were made.

Food insecurity was measured through the U.S Adult Food Security Survey Module (AFSSM) (U.S. Department of Agriculture, 2022) which provides a raw score from the sum of affirmative responses and can be categorised into four levels of food security: high, marginal, low and very low. The higher the score the higher the level of food insecurity. Good test-retest reliability (r = .75- r = .98) and internal consistency (α = .73 - α =.95) have been reported for this measure (Bickel et al., 2000; Marques et al., 2013) and it is suitable for

gathering data on food security through self-administration (Bickel et al., 2000; Kuehn et al., 1999). Whilst developed in the U.S. this measure has been used with populations around the world, including the UK (Evidence and Network on UK Household Food Insecurity, 2022; Long et al., 2017). In the present study, this measure demonstrated good internal consistency ($\alpha = .83$).

Psychological distress was measured using the Depression Anxiety and Stress Scale-21 (DASS-21) (Lovibond & Lovibond, 1995) which measures emotional states and is a shorter version of a longer scale. It consists of 21 items and uses a four-point severity/ frequency scale, the results of which are scored to reveal individual ratings of depression, anxiety and stress. For this shorter version, individual item scores are added together then multiplied by two. It is suitable for non-clinical samples and recommended cut-off scores for severity (normal, moderate, severe) are available (Lovibond & Lovibond, 1995). Adequate construct validity and high reliability have been reported (Henry & Crawford, 2005), as well as good internal consistency for each subscale (depression $\alpha = .85$, anxiety $\alpha = .81$, and stress $\alpha = .88$) (Osman et al., 2012). In the present study, internal consistency was good for the total scale score ($\alpha = .97$), as well as for each subscale (depression $\alpha = .94$, anxiety $\alpha = .92$, stress $\alpha = .92$).

Shame was measured using the External and Internal Shame Scale (EISS) (Ferreira et al., 2022) which is a newly developed measure quantifying external and internal shame separately, as well as providing a global score. There are 8 items and a 5-point scale (0 = “Never” to 4 = “Always”), with higher scores indicating higher levels of shame (scores range from zero to 32). Shame is measured across 4 core domains: inferiority/inadequacy, exclusion, emptiness and criticism. Good internal consistency has been shown for the subscales of external ($\alpha = .80$) and internal ($\alpha = .82$) shame, as well as for the EISS total scale

(α = .89) (Ferreira et al., 2022). In the present study internal consistency was good (total scale score α = .94, internal shame α = .86, external shame α = .86).

2.4 Distribution

Following completion of the survey, participants could opt in to receive a summary of the study by providing an email address. This email address was stored separately to the survey responses. Additionally, a summary of the study findings will be made available to the pilot group who provided feedback on the study design and research materials.

2.5 Data analysis

Data were analysed using IBM SPSS version 28. Initially, descriptive statistics were produced to check the data were not violating test assumptions and to explore the relationship between variables. Where a relationship between variables was indicated, the strength and direction of this relationship was explored through correlational analysis, and a linear regression analysis was conducted to produce a model of best fit for the prediction of distress and account for any potentially confounding factors. Moderation analysis was conducted using PROCESS version 4.2 in SPSS (Hayes, 2017).

3. Results

A total of 130 responses were obtained (28 paper surveys and 102 online surveys). Due to the nature of data collection, it is not possible to know the response rate. A total of nine surveys were rejected; seven lacked full consent and two did not meet age eligibility. This left 121 surveys for analysis.

The median age of respondents was 37 years (*IQR* = 22), the majority were female (N = 73, 59.8%) and ethnicity was mainly White (n = 97, 79.5%). 35.6% (N = 43) were employed either full time, part time or self-employed and 36.4% (N = 44) were not in work or unable to work. Households mainly consisted of one (44.6%) or two adults (34.7%) and

the range was between one and eight adults. The majority of households did not have any children (53.7%) and the range was between zero and eight children. Further demographic information can be found in Table 2.1.

"TABLE 2.1 HERE"

Food security was very low (*M* = 6.50, *SD* = 3.16). With regards to food security categories, 67.8% were very low in food security (N = 82), 18.2% were low in food security (N = 22), 5% were marginally food secure (N = 6) and 9.1% were high in food security (N = 11). Most participants indicated severe levels of depression (*M* = 6.50, *SD* = 3.16), extremely severe levels of anxiety (*M* = 20.39, *SD* = 12.65), moderate levels of stress (*M* = 24.34, *SD* = 11.89) and severe psychological distress overall (*M* = 71.73, *SD* = 35.34). External and internal shame scores were similar (*M* = 9.27, *SD* = 4.68; *M* = 9.92, *SD* = 4.39 respectively; total shame score *M* = 19.18, *SD* = 8.88). Cut offs are not provided for this measure and the higher the score the higher the level of shame. Further descriptive statistics can be found in Table 2.2.

"TABLE 2.2 HERE"

3.1 Assumptions of normality

Data were visually examined using scatter plots to identify outliers. It was noted that participant two was an outlier due to the high level of psychological distress reported for someone scoring low on food insecurity. However, removing this participant data had a

minimal impact on the mean and standard deviations. Therefore, a decision was made to keep the data in the sample. No other outliers were found and the scatter plots suggested that linearity could be assumed.

Histograms were created to visually identify whether the data violated assumptions of normality. Positive skew and kurtosis appeared to be present for most of the variables and so this was followed up with significance testing. Significant positive skew was found for measures of food insecurity (p <0.001), external, internal and total shame (p <0.05), whilst significant kurtosis (light tailed distribution) was found for depression and anxiety scores (p<0.05). This information highlights statistically significant violations of normality in the data.

3.2 Correlational analysis

Due to the violations of assumption discussed above, Spearman's Rho was used for correlational analysis. Additionally, bootstrapping was used to obtain robust confidence intervals (Field, 2018).

3.2.1 Correlations by demographic factors

There were significant negative correlations between age and number of adults in a household $r(93) = -.23$, $p = .028$, internal shame $r(93) = -.22$, $p = .031$ and anxiety $r(93) = -.24$, $p = .021$. Yet effect sizes are considered relatively small.

There were significant positive correlations between number of children in a household and food insecurity $r(93) = .27$, $p = .008$, internal shame $r(93) = .24$, $p = .017$, depression $r(93) = .21$, $p = .044$ and stress $r(93) = .21$, $p = .041$. Again, effect sizes appeared to be relatively small.

The data for gender and ethnicity were nonparametric and a Mann-Whitney U test was conducted to analyse an association with the study variables. The results demonstrate that males had a higher mean rank for food insecurity than females but this was not a statistically significant difference (U = 1230.50, p = .199). Males had a higher mean rank for depression (U = 774.50, p = .139), anxiety (U = 894.00, p = .072) and stress (U = 999.00, p = .400) than females and again these differences were not statistically significant. Males also had a higher mean rank for external (U = 1268.00, p = .349), internal (U = 1164.50, p = .115) and total shame (U = 1216.00, p = .210) than females but this was not statistically significant.

For ethnicity, data were entered as White or non-White as the majority of the sample were White with few participants from other ethnicities. The results demonstrate that non-White participants had a higher mean rank for food insecurity (U = 991.00, p = .903) and depression than White participants but these were not statistically significant (U = 559.50, p = .081). Non-White participants had a higher mean rank for anxiety (U = 449.50, p = .003) and stress (U = 463.00, p = .006) than White participants and this was a statistically significant difference. Non-White participants also had a higher mean rank for external (U = 639.00, p = .010), internal (U = 640.50, p = .010) and total shame (U = 632.00, p = .009) than White participants and this was a statistically significant difference.

3.2.2 Correlations by food security

There were positive correlations between food insecurity and internal shame $r(93)$ = .61, p = <.001, external shame $r(93)$ = .62, p = <.001, depression $r(93)$ = .64, p = <.001, anxiety $r(93)$ = .59, p = <.001 and stress $r(93)$ = .61, p = <.001. Effect sizes were relatively large.

3.2.3 Correlations by psychological distress

There were positive correlations between depression and internal shame $r(93) = .78$, $p < .001$, external shame $r(93) = .76$, $p < .001$, anxiety $r(93) = .85$, $p < .001$ and stress $r(93) = .83$, $p < .001$. There were positive correlations between anxiety and internal shame $r(93) = .79$, $p < .001$, external shame $r(93) = .80]$ $p < .001$ and stress $r(93) = .88$, $p = < .001$. There were positive correlations between stress and internal shame $r(93) = .75$, $p < .001$, and external shame $r(93) = .76$, $p = < .001$. Effect sizes were relatively large for all correlations.

3.2.4 Correlations by shame

There were positive correlations between internal shame and external shame $r(93) = .91$, $p = < .001$, with large effect sizes.

As assumptions of normality were violated, bootstrapped confidence intervals were used for robustness. The correlations suggests that (1) as food insecurity increases, levels of psychological distress significantly increase; (2) as food insecurity increases, levels of shame significantly increase; and (3) there is a positive correlation between psychological distress and shame. Further details can be found in Table 2.3.

There were high correlations between subscales within both the measure of psychological distress and the measure of shame ($r = .9$). Total scale scores were therefore used for the following statistical analysis to avoid the impact of multicollinearity (Field, 2018).

"TABLE 2.3 HERE"

1.3 Multiple regression

Employment status demonstrated a medium association with psychological distress and a linear regression was conducted to explore this further. A significant relationship was found between employment status and psychological distress, with a medium effect size. (R^2 = .219, p = .009). Specifically, psychological distress is lower in people who are employed *(b* = -27.373, -47.47, 9.79, p = .015) or retired *(b* = -41.500, -71.74, -11.03, p = .003) than in those who are unemployed. Unemployment was chosen as the reference category against which others were compared as the majority of the sample reported being unemployed (Table 2.4).

"TABLE 2.4 HERE"

A multiple regression was conducted using shame (total EISS scores) as a predictor and psychological distress (total DASS 21 scores) as the outcome measure. This is due to the large correlations between the subscales of these measures which increase the risk of bias due to multicollinearity. Age and number of children in the household were found to correlate with psychological distress, and were included in the model.

Further analysis with regards to multicollinearity, demonstrated that the variance inflation factor (VIF) values were substantially below 10 and tolerance was above .2. This indicated that collinearity of the predictors was unlikely. Residuals were checked for evidence of bias, with 5% of cases in the sample having standardised residuals outside of ±2 limits, which was expected (Field, 2018). Furthermore, 3% of cases (40, 50 and 93) were outside of the ±2.5 limits which is slightly higher than the 1% expected (Field, 2018). No cases had a standardized residual greater than 3 or a Cook's distance greater than 1. The average leverage value was 0.05 with three cases twice this value (5, 8, 75) and one case

three times this value (18). As a crude look at the data, one case (18) has a Mahalanobis distance value higher than 15. DFBeta statistics were all within ±1 which does not indicate undue influence of any particular case on the model parameters. Covariance ratio (0.84 – 1.16) indicated 11 potential outliers (including cases 5, 8, 18, 75 noted above) most were just outside of the limits; however, case 18 was fairly far from the upper limit. Case 18 could be considered as problematic by having an undue influence on the model. However, the Cook's distance and DFBetas were within the parameters which suggested any influence this case did have on the model was small (Field, 2018). Therefore, a decision was made to include this case.

A graph displaying standardized predicted values against standardized residuals shows the assumptions of linearity and homoscedasticity within the model were met. Partial plots were also created to identify outliers and to further check for linearity and homoscedasticity. These indicated a weak positive relationship between food insecurity and psychological distress with homoscedasticity, case two was an outlier. The plot for shame showed a strong positive relationship to psychological distress without any obvious outliers and homoscedasticity was indicated. The plot for number of children in a household does not show a relationship with psychological distress; there was funnelling, indicating greater spread for households with fewer children and case 18 was an outlier. The plot for age does not show a relationship with psychological distress, homoscedasticity was indicated and case 117 was an outlier. The histogram and p plot of regression standardised residuals suggest a normal distribution.

A hierarchical multiple regression was conducted using three models and bootstrapping was selected due to the violation of assumptions discussed above. The first model contained age and number of children in the household as predictor variables and accounted for 6.1% of the variance. Model two also included food insecurity as a predictor

variable and accounted for 47.4% of the variance. The change was significant $p < .001$ and indicates a better fit of the model. Model three included the above, plus shame as a predictor variable and accounted for 74.2% of the variance, with a statistically significant change ($p < .001$). Therefore, model three is the best fit when considering how much variability in psychological distress is accounted for by the predictors, and this model will be reported on herein.

~~The correlation matrix completed as part of the multiple regression, did not show high correlations ($r = .9$) between predictors and so the risk of multicollinearity was low (Field, 2018).~~ The adjusted R^2 value is close to R^2 indicting that the cross-validity of the model is good. The model is a significantly better predictor of psychological distress than if the outcome mean was used ($F = 64.78$, $p < .001$). Coefficients indicated that if the other predictors are held constant, as age decreased psychological distress increased (b = -.13, -.37, .09, $p = .191$) and the same was true for the number of children in a household (b = -.57, -3.07, .089, $p = .700$). However, the confidence intervals contain zero which suggests there may be no relationship between these variables and psychological distress; furthermore, the relationships were found to be non-significant. Coefficients indicated that if the other predictors are held constant, as food insecurity increased psychological distress also increased (b = 2.36, .89, 3.84, $p = .004$) and the same was true for shame (b = 2.98, 2.34, 3.54, $p < .001$). Therefore, the linear multiple regression model predicts the association between food insecurity, shame and psychological distress significantly (Table 2.5).

"TABLE 2.5 HERE"

3.4 Moderation

PROCESS version 4.2 (Hayes, 2017) was used to conduct a simple moderation analysis. Food security was the predictor, psychological distress the outcome measure and shame the moderator. A heteroscedasticity consistent standard error and covariance matrix estimator was used. Shame and food security were mean centred prior to analysis.

The main effect of food security on psychological distress was significant (*b* = 2.30, .68, 3.97, *p* = .006). The main effect of shame on psychological distress was significant (*b* = 3.02, 2.39, 3.63, p <.001). There was a lack of a significant interaction between food security and shame and therefore no moderation was found (*b* = -.01, -.14, .11, *p* = .902). Thus the relationship between food insecurity and psychological distress is not moderated by shame. Further information can be found in Appendix 2C.

4. Discussion

4.1 Food insecurity and psychological distress

The results support the hypothesis that there is a significant positive correlation between increases in food insecurity and increases in psychological distress. The findings are consistent with a large research base demonstrating that a lack of access to adequate food is linked to difficulties in mental wellbeing, specifically depression, anxiety and stress (Arenas et al., 2019; Fang et al., 2021; Myers, 2020; Pourmotabbed et al., 2019). This study used the DASS-21 as a measure of psychological distress which includes a depression subscale. The majority of participants scored within the extremely depressed range and this will have implications for food insecurity. For instance, depression negatively effects motivation, fatigue and concentration which likely has repercussions for employment, income and ability to afford basic necessities (Ridley et al., 2020). Furthermore, depression is associated with negative beliefs about the self (Gotlib & Joormann, 2010) which may mean a person underestimates their ability to gain employment or to apply for work with a higher salary.

Moreover, being in a position of food insecurity could perpetuate negative thoughts about the self, maintaining this cycle. The DASS-21 also includes an anxiety subscale with the majority of participants scoring highly. Anxiety can enhance and prolong worries about finances (Ridley et al., 2020) with difficult decisions needing to be made with regards to spending, how much to eat and whether or not to access food aid. Even though disability discrimination is unlawful, inequality due to mental health status can occur in the workplace consequently limiting employment opportunities and negatively effecting income (Pescosolido et al., 2013).

Poverty and unexpected reductions in income (due to job losses, relationship breakdown, ill health) can lead to difficulties with mental health (Ridley et al., 2020) and feelings of worthlessness. Similarly to the SDH framework, Bramley et al. (2021) concluded that drivers of food insecurity are structural as well as individual. With regards to individual factors, this study noted the importance of employment status on psychological distress, particularly that people who are not in work are more likely to experience psychological distress than those who are employed or retired. This corresponds with the outcome found by Bramley et al. (2021). Families with three or more children living in the household are overrepresented in food banks, and 16% of this sample had three or more children living at home. The number of children in a household was significantly correlated with food insecurity, external shame, depression and stress. This study did not find any significant correlations between food insecurity and age or ethnicity. This differs from the findings of Bramley et al. (2021) who found that being younger and an ethnic minority were associated with risk of being food insecure.

4.2 Food insecurity and shame

The results of the study support the second hypothesis, demonstrating a significant positive relationship between increases in food insecurity and increases in shame. Shame occurs when a person believes they are, or are perceived by others to be flawed, inadequate or deviating from sociocultural norms (Brown, 2006; Dolezal & Lyons, 2017). Due to the cross-sectional design of this study causality cannot be determined, yet the research base suggests the relationship is bi-directional. For instance, when experiencing food insecurity, a person may negatively compare themselves to others who they perceive more positively, resulting in feelings of shame. Additionally, when food insecure, it is not possible to meet societal expectations about healthy eating and this can compound feelings of shame (Pineau et al., 2021).

Shame can also be a barrier to accessing support for food insecurity perpetuating the difficulties experienced (Middleton et al., 2018; Pineau et al., 2021). Data from the UK found discrepancies between the number of people who reported being food insecure and those who used a foodbank (Bramley et al., 2021), indicating that not all who report being food insecure access food aid. Middleton et al. (2018) conducted a qualitative scoping review and found attendees of foodbanks were concerned that accessing food aid would create a negative social image and were embarrassed by this. This finding is not unique to foodbanks and was found to exist across food aid programs more widely (Gundersen & Oliveira, 2001; Swales et al., 2020). The decision to use food aid is influenced by the presence of children in the household, i.e., children's needs are prioritised over adults feelings of shame at accessing food aid (Purdam et al., 2016). Within this study the number of children in a household was found to significantly correlate with food insecurity, external shame, depression and stress, suggesting its importance.

The multiple regression analysis produced a model which explained 74% of the variance in psychological distress with food insecurity and shame as key predictors. One way

in which shame can contribute to the psychology distress experienced by people who are food insecure is through isolation. For instance, people feeling shame due to food insecurity may avoid socialising with others to hide their situation (Brown, 2006; de Hooge et al., 2018; Dolezal & Lyons, 2017) and isolation has been shown to have a detrimental effect on psychological wellbeing (Dolezal & Lyons, 2017; Martin et al., 2016). Yet the role of shame is complex and linked to other psychological factors not measured as part of this research. For instance, the relationship between food insecurity and shame has been found to be influenced by guilt, specifically by whether or not a person believes they are to blame for the food insecurity (Van der Horst et al., 2014).

4.3 Food insecurity and psychological distress moderated by shame

The third hypothesis proposed that shame would have a moderating effect between food insecurity and psychological distress. Surprisingly however, the results did not demonstrate that shame influenced this relationship. The lack of a significant interaction could be related to the sample size of the study, for instance the priori power analysis suggested a sample of 127 participants would be required to detect a medium effect size (.15), with an alpha of .05 and a standard power level of .8 when three predictors were present (Warner, 2012). Yet, data analysis included only 95 participants due to missing data or participants not meeting the inclusion criteria; therefore, the study is likely to be underpowered.

Mediation analysis has demonstrated that shame can explain the relationship between subjective financial hardship and anxiety (Frankham et al., 2020). However, within the same study no relationship was found when using an objective measure of financial hardship. This is interesting as it is possible that the AFSSM, an objective measure of food insecurity,117 had some influence on the lack of interaction found. Overall, moderation and mediation

studies have not consistently found interactions between financial hardship, shame and psychological distress which may indicate that these predictor variables are independently associated with psychological distress.

Within this study food insecurity was measured using the AFSSM an objective measure. Interestingly, 9.1% of the sample scored within the food secure range which was unexpected due to the study focus on food insecurity. However, it is possible that within the study time frame of six months, people had experienced some difficulty accessing food but that this was a short-term situation or was not to the extent that would result in a higher score i.e., the need to skip meals. Furthermore, these participants may have accessed food aid during this time which provided some level of food security; for instance, not having to reduce portion sizes or cut down on meals as they were able to access food. Yet, considering the differences Frankham et al. (2020) found between objective and subjective measures it is possible that while subjectively participants identified as food insecure, this was not supported with the use of the objective measure. Consequently, it is possible that this measure misses some aspect of food insecurity which is important to those experiencing financial hardship. For instance, the measure does not ask about the psychological and social experience of being food insecure i.e. feelings of powerlessness and social exclusion (Goodman et al., 2013).

4.4 Study context

The SDH framework emphasises the importance of systemic influences on individual and contextual factors related to health (World Health Organisation, 2010). Hence, it is important to note that this study was conducted during the COVID-19 global pandemic. Economic implications of the pandemic included increased rates of food insecurity in the UK, resulting from reduced income due to job losses and furlough, and a reduction in formal and

informal support systems (Bramley et al., 2021; Dunn et al., 2020). Food insecurity is predominantly a financial concern, however during COVID-19 people also struggled to access food due to shortages and lockdown measures. Bramley et al. (2021) noted that the profile of people referred to food banks, an indicator of food insecurity, changed during COVID-19 and included more private renters, people born outside of Europe, people aged 25 to 44 and couples with children. Therefore, the study sample was potentially more heterogeneous than it would have been had the study been conducted pre-pandemic. A further consequence of the pandemic was that many food aid organisations were not able to operate as usual. For instance, food banks began delivering food parcels rather than these being collected (Bramley et al., 2021) and organisations which provided cooked meals had to stop due to government restrictions. These changes could influence experiences of psychological distress and shame; for instance, isolation has a detrimental effect on mental health and has been strongly associated with anxiety and depression (Ettman et al., 2020). Foodbanks can encourage a sense of community by reducing feelings of isolation and shame (Garthwaite et al., 2015; Purdam et al., 2016), yet the lack of social inclusion during the pandemic may have increased feelings of shame. Clearly, the impact of these contextual factors adds to the complexity of the relationship between the variables in this study.

4.5 Strengths and limitations

This study was conducted in the UK and is therefore limited in its generalisability to other countries; however, the findings are consistent with those studies which have been conducted in other Western countries. Western societies place value on a person's wealth and this determines their position in society (Hill & Gaines, 2007), yet this is not true of all cultures and findings may be different in other contexts.

An online survey was the main form of recruitment. However, this may have excluded members of the target population who do not have access to the internet and who may be experiencing food insecurity at the highest level. Attempts were made to facilitate recruitment by ensuring the survey was compatible with most mobile phones and could therefore be accessed using free Wi-Fi; additionally, the survey was intentionally brief. Paper copies with SAE were also available via a small number of food aid locations in the Northwest. Due to prioritising accessibility, questions were kept to a minimum meaning data for some demographic factors were not gathered. This includes data on benefits, disabilities and physical health (Bramley et al., 2021; Francis-Devine et al., 2022; Martin et al., 2016) which have all shown importance in explaining the variance in psychological distress for people experiencing hardship.

Food insecurity was measured using the AFSSM as it demonstrates good test-retest reliability and internal consistency (Bickel et al., 2000; Marques et al., 2013). Furthermore, the measure has been used internationally allowing for comparisons between countries (Bramley et al., 2021). Yet as with other food insecurity measures, the AFSSM does not ask about the social and psychological implications of food insecurity. Information which is crucial when supporting food insecure populations. To the authors knowledge there are no food security measures which go beyond ascertaining data about the availability and accessibility of food, to understand the wider implications.

During the development of study materials a small group of people who accessed or provided food aid were asked for feedback on the content and layout. Involving people who understand food insecurity in this way is a strength and it influenced the final version of the study materials. The group provided suggestions on how to enhance the visibility of the study to maximise recruitment; through the use of images and font size. No comments were made about the terminology suggesting this was acceptable.

4.6 Significance of the study

The results show an important relationship between food insecurity, psychological distress and shame which is likely to be clinically significant. Whilst causation cannot be assumed due to the observational nature of the study, mental health professionals need to consider the role of food insecurity and shame when supporting service users. This includes enquiring about social context as part of a holistic assessment, noticing indications of financial hardship and including these factors within the therapeutic formulation. Not acknowledging individuals' context can be invalidating and increase feelings of self-blame and shame (Goodman et al., 2013). Financial hardship is known to reduce the likelihood that a person will stay in therapy (Cobb, 1972; Davies et al., 2010; Katz et al., 1997; Steele et al., 2006; Wang et al., 2005), yet most research in this area has focused on the practical and logistical barriers (Goodman et al., 2013). Mental health interventions which acknowledge and adapt to the context of low-income have a positive impact on mental health care utilisation as well as on mental health (Grote et al., 2007). For instance, in therapy the inclusion of discussions about the influence of economic stressors on mental health difficulties encourages the development of a more comprehensive understanding (Grote et al., 2007) and have been found to reduce depression (Falconnier & Elkin, 2008). Psychotherapeutic interventions for low-income women noted the most effective studies included the reduction of the negative effects of practical (financial and logistical), psychological (empowerment, stigma and trust), as well as cultural barriers (poverty issues) (Levy & O'Hara, 2010). Kim and Cardemil (2012) discuss modifications to psychotherapy which include; therapist self-reflection of economic difference and assumptions about people in poverty, openly discussing social class issues, and partnering with relevant organisations. Shame influences vulnerability to mental health difficulties (Gilbert & Procter, 2006) and it is important to utilise the research base to understand the detrimental effect this can have on

psychological wellbeing in an already marginalized population. Mental health professionals should use formulation to understand the role of shame. Furthermore, therapy could involve interventions which target the shame, for instance, Compassion Focused Therapy which encourages a person to develop warmth towards the self rather than self-criticism (Gilbert & Procter, 2006).

Food aid organisations should try to reduce the impact of shame as a barrier to access support. For instance, one aspect of shame noted from qualitative research is due to reciprocity norms. Middleton et al. (2018) found that being able to volunteer at a foodbank eased the discomfort felt at receiving food aid, due to the feeling of giving back. Promoting social inclusion through opportunities for people experiencing food insecurity to come together can as help reduce feelings of isolation and shame (Middleton et al., 2018).

4.7 Future research

This study was not able to analyse the influence of relative poverty, which has been found to have important implications for psychological distress and shame (Raphael, 2006). Future research would benefit from measuring this alongside traditional poverty measures. This would be particularly relevant where poverty sits alongside relative affluence.

Shame has associations with other psychological variables, such as self-esteem, guilt, and blame; it would be interesting to learn if these factors contribute to the psychological distress experienced with financial hardship. Moreover, whether they help to explain more of the variance in psychological distress.

It is important for future research to continue to highlight the long-term implications of COVID-19 and the cost-of-living crisis on food insecurity. It is unfeasible for food aid use to continue to increase as it has been and the consequences of policy decisions need to be documented and discussed with those who can make changes.

To conclude, this study found significant correlations between psychological distress and food insecurity and shame; but did not find an interaction between these variables. Possible reasons for this have been highlighted.

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Tables and figures

Table 2.1

Sample Characteristics

Variable	Total		Online		Paper	
	Number	%	Number	%	Number	%
Gender						
Female	73	59.8	60	63.2	12	46.2
Male	40	32.8	26	27.4	14	53.8
Prefer to self-describe	7	5.7	7	7.4	0	0.0
Prefer not to say	2	1.6	2	2.1	0	0.0
Ethnicity						
Asian or Asian British	5	4.1	5	5.3	0	0.0
Black African, Caribbean or Black British	6	4.9	6	6.3	0	0.0
Mixed or multiple ethnic groups	10	8.2	10	10.5	0	0.0
White	97	79.5	70	73.7	26	100
Prefer not to say	4	3.3	4	4.2	0	0.0
Employment status						
Employed full time (37+ hours a week)	22	18.0	18	18.9	4	15.4
Employed part-time (less than 37 hours a week)	17	13.9	10	10.5	7	26.9
Unemployed	23	18.9	17	17.9	6	23.1
Student	14	11.5	13	13.7	0	0.0
Retired	11	9.0	6	6.3	5	19.2
Self-employed	4	3.3	4	4.2	0	0.0
Unable to work	21	17.2	18	18.9	3	11.5
On maternity/paternity leave	2	1.6	1	1.1	1	3.8
Other	5	4.1	5	5.3	0	0.0
Prefer not to say	3	2.5	3	3.2	0	0.0
Adults in household						
1	54	44.6	41	43.2	13	50
2	42	34.7	33	34.7	9	34.6
3	13	10.7	11	11.6	2	7.7

4	6	5.0	4	4.2	2	7.7
5	4	3.3	4	4.2	0	0.0
6	1	.8	1	1.1	0	0.0
7	0	0.0	0	0.0	0	0.0
8	1	.8	1	1.1	0	0.0
Children in household						
0	65	53.7	53	55.8	12	46.2
1	14	11.6	8	8.4	6	23.1
2	23	19.0	18	18.9	5	19.2
3	14	11.6	11	11.6	3	11.5
4	3	2.5	3	3.2	0	0.0
5	1	.8	1	1.1	0	0.0
6	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0
8	1	.8	1	1.1	0	0.0

Table 2.2

Descriptive Statistics for Main Study Variables

Variable	N	Mean	Sd	Skewness	Kurtosis
Adult Food Security Survey Module	121	6.50	3.16	-.75	-.53
DASS 21 Depression	99	24.61	12.90	-.25	-1.11
DASS 21 Anxiety	107	20.39	12.65	.08	-.98
DASS 21 Stress	105	24.34	11.89	-.29	-.69
DASS 21 Total score	95	71.73	35.34	-.25	-.88
EISS External Shame	120	9.27	4.68	-.45	-.65
EISS Internal Shame	120	9.92	4.39	-.56	-.58
EISS total Shame	120	19.18	8.88	-.50	-.65

Table 2.3

Spearman's Rho Correlations Between Study Variables

Variable	Adults in household	Children in household	Food security	EISS internal shame	EISS external shame	DASS 21 depression	DASS 21 anxiety	DASS 21 stress
Age	**-.23***	.12	-.013	-.22	-.12	-.13	**-.24***	-.20
	(-.43, -.02)	(-.07, .32)	(-.23, .20)	(-.40, -.01)	(-.33, .11)	(-.34, .09)	**(-.44, -.02)**	(-.34, .02)
Adults in household	-	-.13	-.16	-.13	-.13	-.18	-.12	-.13
		(-.32, .07)	(-.35, .04)	(-.32, .06)	(-.32, .06)	(-.36, .02)	(-.32, .07)	(-.31, .06)
Children in household		-	**.27****	.20	**.24***	**.21***	.17	**.21***
			(.10, .44)	(-.00, .39)	**(.04, .44)**	**(-.00, .41)**	(-.04, .38)	**(.00, .41)**
Food security			-	**.61****	**.62****	**.64****	**.59****	**.61****
				(.46, .74)	**(.48, .74)**	**(.49, .76)**	**(.44, .71)**	**(.47, .72)**
EISS internal shame				-	**.91****	**.78****	**.79****	**.75****
					(.85, .95)	**(.65, .86)**	**(.67, .87)**	**(.60, .86)**
EISS external shame					-	**.78****	**.80****	**.75****
						(.65, .86)	**(.69, .88)**	**(.61, .85)**
DASS 21 depression						-	**.85****	**.83****
							(.76, .90)	**(.74, .90)**
DASS 21 anxiety							-	**.90****
								(.81, .93)

***. Correlation is significant at the 0.05 level (2-tailed).**

****. Correlation is significant at the 0.01 level (2-tailed).**

Bootstrap confidence intervals based on 1000 samples

Table 2.4

Linear Model of Employment Predictors of Change in Psychological Distress

Variable	*b*	*SE B*	ß	*P*
	(CI BCa 95%)			
Constant	84.00	7.34		**<.001****
	(70.66, 98.06)			
Employed full time	-27.38	11.01	-.29	**.015***
	(-47.47, -9.79)			
Employed part time	-22.00	11.99	-.21	.070
	(-52.17, 2.45)			
Student	.15	11.70	.00	.990
	(-21.79, 21.77)			
Retired	-41.50	13.74	-.33	**.003****
	(-71.74, -11.03)			
Self-employed	-26.67	20.32	-.13	.193
	(-51.78, -7.34)			
Unable to work	-2.53	11.21	-.03	.822
	(-26.01, 16.92)			
Maternity/paternity leave	18.00	24.35	.07	.462
	(3.32, 31.83)			
Other	-38.00	20.33	-.19	.065
	(-82.94, 13.61)			
Prefer not to say	20.67	20.33	.10	.312
	(-23.89, 50.61)			

***. Correlation is significant at the 0.05 level**

****. Correlation is significant at the 0.01 level**

*Bootstrap confidence intervals based on 753 samples

Table 2.5

Hierarchical Multiple Regression of Predictors of Psychological Distress

Variable	*b*	*SE B*	ß	*BCa 95% CI*	*p*	R^2	ΔR^2
Model 1							
Constant	88.50	8.75		71.99, 102.66	**<.001****	.06	.06
Age	-.52	.25	-.23	-1.01, .013	.032		
No. of children	2.90	3.58	.12	-3.37, 11.83	.414		
Model 2							
Constant	34.80	9.30		17.23, 53.55	**<.001****	.47	.41
Age	-.28	.16	-.12	-.66, .03	.087		
No. of children	-.40	2.41	-.02	-4.25, 6.31	.845		
Food security	7.44	.84	.66	5.70, 8.87	**<.001****		
Model 3							
Constant	4.00	6.95		-9.20, 19.48	.537	.74	.27
Age	-.13	.11	-.06	-.37, .09	.191		
No. of children	-.57	1.58	-.02	-3.07, 4.21	.700		
Food security	2.36	.81	.21	.89, 3.84	**.004****		
Shame	2.98	.32	.70	2.34, 3.54	**<.001****		

***. Correlation is significant at the 0.05 level**

****. Correlation is significant at the 0.01 level**

Confidence intervals and standard errors based on 1000 bootstrap samples

Table 2.6

Simple Moderation Analysis using Food insecurity as Predictor, Psychological Distress as Outcome and Shame as Moderator Variables

Variable	*b* *BCa 95% CI*	*SE B*	*t*	*p*
Constant	71.86 (67.11, 76.70)	2.43	29.56	**<.001****
Food security	2.30 (.68, 3.97)	.82	2.80	**.006****
Shame	3.02 (2.39, 3.63)	.31	9.79	**<.001****
Food security x Shame	-.008 (-.14, .11)	.06	-.12	.902

***. Correlation is significant at the 0.05 level**
****. Correlation is significant at the 0.01 level**
Confidence intervals based on 5000 bootstrap samples

Appendices

Appendix 2A: Author guidelines

Aims and scope

SSM - Mental Health (SSM-MH) provides an international and interdisciplinary forum for the dissemination of social science research on mental health and behavioral health.

SSM - Mental Health shares the same general approach to manuscripts as its companion title, Social Science & Medicine. The journal takes a broad view of the field of mental and behavioral health, especially welcoming interdisciplinary papers from across the Social Sciences and allied areas.

We publish original research articles (both empirical and theoretical), reviews, position papers, and commentaries on mental health issues, to inform current research, policy, and practice in all areas of common interest to social scientists, health practitioners, and policy makers. We also publish Series, a unique format which combine 2-3 related articles around a similar theme or context.

The journal publishes material relevant to any aspect of mental health and behavioral health from a wide range of social science disciplines (anthropology, sociology, psychology, psychiatry, epidemiology, implementation science, population health science, and public health), and material relevant to the social sciences from any of the professions concerned with mental health, health care, clinical practice, and health policy. We encourage material that is motivated by a theoretical framework and of general interest to an international readership.

The three key areas of SSM-MH are:

Implementation Science and Intervention Research

Medical Anthropology and Critical Social Science

Psychiatric Epidemiology and Population Mental Health Science

Topics and approaches of particular relevance to the journal include: interdisciplinary methods and theory; social determinants of mental health and disparities in mental health; mixed-methods research; methodological notes; replication studies of novel mental health interventions; psychiatric epidemiology; and research on flourishing, resilience, and well-being.

SSM-MH seeks to maintain the highest standards of peer-reviewed excellence, as well as to provide a forum for debate in the field of social sciences and mental health.

Article structure

Subdivision - numbered sections

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the

text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

• **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

• **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

• **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.

• **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Highlights

Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical abstract

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, it is recommended to include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate

results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, Crossref and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

Preprint references

Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published,

these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference style

Text: All citations in the text should refer to:

1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;

2. *Two authors:* both authors' names and the year of publication;

3. *Three or more authors:* first author's name followed by 'et al.' and the year of publication. Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999)…. Or, as demonstrated (Jones, 1999; Allan, 2000)… Kramer et al. (2010) have recently shown …'

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Journal abbreviations source

Journal names should be abbreviated according to the List of Title Word Abbreviations.

Appendix 2B: Recruitment poster

Food insecurity, psychological distress and shame

My name is Steph Walsh and I am conducting this research as part of my final year on the Clinical Psychology Doctorate at Lancaster University.

What is the study about?

This study will look at the experience of not always having enough food and the links with worry, low mood and stress. We will also look at what people think of themselves and whether people feel judged by others.

Can I take part?

The research is for anyone aged 18 years or older, living in the UK, who has needed some help to be able to access enough food within the last 6 months.

What will I be asked to do if I choose to take part?

You will be asked to complete a 15-minute survey. The survey will include questions about food availability and emotional distress.

The survey can be completed online using the following link:
https://lancasteruni.eu.qualtrics.com/jfe/form/SV_1LDEadCziDGxxk2

OR

You can request a paper copy of the survey, along with a stamped addressed envelope from a member of staff at the venue where this poster is located.

If you have any questions about the study please get in touch with: Steph Walsh (s.walsh11@lancaster.ac.uk); or research supervisor, Bill Sellwood (b.sellwood@lancaster.ac.uk)

Appendix 2C: Simple moderation analysis

Run MATRIX procedure:

********** PROCESS Procedure for SPSS Version 4.2 beta **********

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
Model : 1
Y : TotDASS2
X : Food_ins
W : EISS_tot

Sample
Size: 95

****
OUTCOME VARIABLE:
TotDASS2

Model Summary

R	R-sq	MSE	F(HC0)	df1	df2	p
.859	.738	337.637	143.469	3.000	91.000	.000

Model

	coeff	se(HC0)	t	p	LLCI	ULCI
constant	71.856	2.431	29.563	.000	67.028	76.684
Food_ins	2.299	.823	2.792	.006	.663	3.934
EISS_tot	3.016	.308	9.789	.000	2.404	3.628
Int_1	-.008	.061	-.123	.902	-.129	.114

Product terms key:
Int_1 : Food_ins x EISS_tot

Test(s) of highest order unconditional interaction(s):

	R2-chng	F(HC0)	df1	df2	p
X*W	.000	.015	1.000	91.000	.902

Focal predict: Food_ins (X)
Mod var: EISS_tot (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

```
DATA LIST FREE/
  Food_ins   EISS_tot   TotDASS2   .
BEGIN DATA.
    -3.152     -8.282     39.434
```

```
      .000     -8.282     46.875
     3.152     -8.282     54.317
    -3.152      .000     64.612
      .000      .000     71.856
     3.152      .000     79.100
    -3.152     8.282     89.790
      .000     8.282     96.837
     3.152     8.282    103.884
END DATA.
GRAPH/SCATTERPLOT=
 Food_ins WITH     TotDASS2 BY       EISS_tot .

*********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS
************

OUTCOME VARIABLE:
 TotDASS2

            Coeff   BootMean     BootSE   BootLLCI   BootULCI
constant    71.856    71.827      2.456     67.114     76.698
Food_ins     2.299     2.277       .833       .675      3.967
EISS_tot     3.016     3.029       .315      2.386      3.628
Int_1        -.008     -.010       .064      -.139       .109

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: A heteroscedasticity consistent standard error and covariance matrix estimator was
used.

NOTE: The following variables were mean centered prior to analysis:
        EISS_tot Food_ins

WARNING: Variables names longer than eight characters can produce incorrect output
when some variables in the data file have the same first eight characters. Shorter
variable names are recommended. By using this output, you are accepting all risk
and consequences of interpreting or reporting results that may be incorrect.

------ END MATRIX -----
```

Section Three: Critical Appraisal

Contextual complexities and issues surrounding measures of deprivation and shame

Stephanie Walsh

Doctorate in Clinical Psychology

Lancaster University

Word Count (excluding references): 3312

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1. Context of the research

This thesis project includes an empirical paper which explores the association between food insecurity, shame and psychological distress. Data were collected between December 2021 and December 2022. It is important to draw attention to this period as it follows the COVID-19 pandemic and the beginning of a cost-of-living crisis. These events have been shown to contribute towards an increase in the number of people experiencing food insecurity (Bhattacharya & Shepherd, 2020; Francis-Devine et al., 2022; World Food Programme, 2023). Additionally, these events introduced a new profile of people referred to food banks (indicative of food insecurity) due to job losses, furlough, reductions in formal and informal support systems, food shortages and lockdown measures (Bramley et al., 2021; Dunn et al., 2020). This means that whilst the study sample may be representative for this time period, it could differ in important ways to previous research looking at food insecurity.

The systematic literature review which also formed part of this thesis included papers from 1984 to 2020. Therefore, the impact of COVID-19 will not be represented here; however, over this time period there have been challenges which would have implications for socioeconomics, including the 2008 recession. Papers included within the literature review were limited to high-income countries to maintain a degree of homogeneity in the participant samples, definition of low socioeconomic status (SES) and availability of mental health services.

2. Measures of deprivation

Deprivation was a key theme in this thesis and was measured as low SES in the systematic literature review and food insecurity in the empirical paper. The measures will now be considered in turn and any overlapping issues discussed.

SES can be defined as "the relative position of a family or individual on a hierarchical social structure, based on their access to or control over wealth, prestige and power (Mueller & Parcel, 1981). Within the review, the models proposed by Bronfenbrenner (1979) and Aday and Andersen (1974) were consulted to frame the influence of environmental and individual factors on health care behaviours. There is no universally agreed way to measure SES, but given the support for measuring beyond individual factors, it makes sense that neighbourhood measures of SES are also important. These measures typically include the social conditions that affect all individuals in a particular area (Kaplan, 1999). Unfortunately, only three papers in the review measured SES using neighbourhood factors i.e., recruiting from areas of low SES (Dasberg et al., 1984; Murry et al., 2011; Tsang et al., 2020). SES is typically measured by obtaining information about individual or household income, wealth, educational level and occupational status (Shavers, 2007). The individual measures used by the papers in the review included: homelessness status; average family income; employment status; educational attainment; financial strain; material hardship and whether or not people had health insurance. The majority of papers included more than one measure of individual or household SES; with only Larson et al. (2013) and De Rosa et al. (1999) using one SES measure each. Using more than one measure of SES optimises validity and reduces the impact of any issues specifically associated with each measure (Krieger et al., 1997). Education is a favourable measure of SES as it can predict occupation, housing and income (Adler & Newman, 2002; Shavers, 2007), but the meaning assigned to grades can differ over time and less traditional training routes are not accounted for (Shavers, 2007). Moreover, education can be problematic in estimating SES when participants are children. However, Murry et al. (2011) and Martin and Howe (2016) overcame this issue by asking about caregiver educational attainment. Income can demonstrate purchasing capacity but is fairly changeable, has a high nonresponse rate and is an issue for children, homemakers and people

who are retired (Shavers, 2007). Income data were obtained in four papers in the review (Dasberg et al., 1984; Duhoux et al., 2017; Murry et al., 2011; Tsang et al., 2020); average family income was measured by two studies (Murry et al., 2011; Tsang et al., 2020). Measuring family income rather than individual income surmounts some of the issues associated with data on individual income. Two studies measured material hardship (Packness et al., 2019; Weaver et al., 2020) by asking about the ability to pay bills. Measures of material hardship ask about the experiences of low SES and a discussion of these types of measures will occur later in this paper.

In four papers homelessness was used to indicate low SES (De Rosa et al., 1999; Duhoux et al., 2017; Kim et al., 2007; Martin & Howe, 2016) as it is often associated with poverty (Anderson & Christian, 2003). Yet, this group are likely to represent extreme poverty and may differ in important ways from others in low SES positions who are not homeless. For instance, homelessness may be a short-term crisis situation and therefore not an accurate reflection of a person's SES. For instance, homelessness may be the result of a job loss, fleeing violence, family disputes, relationship breakdown or leaving care, prison or the armed forces (Fitzpatrick et al., 2000). Alternatively, homelessness may be based on longer-term individual and systemic difficulties; for instance, unemployment, unaffordable housing, poverty, lack of social support and debt (Anderson & Christian, 2003; Fitzpatrick et al., 2000). Homeless people experience more physical and mental health problems, cognitive and neurological impairments (Backer & Howard, 2007; Hwang et al., 2008) and substance abuse issues (Johnson & Chamberlain, 2008) than people who are not homeless. One paper in the review asked about the length of time people had been homeless and 26% of the sample experienced homelessness for three or more years (De Rosa et al., 1999). It was not possible to explore differences between papers measuring low SES and papers which recruited

homeless samples, due to the small number of eligible papers and variations in measures of acceptability. However, the research suggests there may have been important differences.

The empirical paper focused on food insecurity, which can be defined as a "limited or uncertain availability of nutritionally adequate and safe foods" (Taylor & Loopstra, 2016). The definition of food insecurity has broadened overtime to reflect inadequate access to food as well as unavailability, and reflects not only experiences of hunger but also worries about accessing food (Webb et al., 2006). Hence, a more recent definition by the U.S. Department of Agriculture (2022) defines food security as "access by all people at all times to enough food for an active, healthy life". This newer definition acknowledges that food insecurity can be the result of problems related to food shortages; but also, that difficulties in high-income countries are more likely to be financially based and related to accessibility issues (Pollard & Booth, 2019). High income countries have surplus food supplies and this is reflected in the fact that many food aid organisations take this excess and redistribute to people in need (Pollard & Booth, 2019).

When reflecting on the inclusion of the term food insecurity, I was unsure how familiar the term was to the public, including people who would be considered to be in this category. For instance, poverty research has indicated that the public tend to understand poverty in narrow, extreme terms and do not necessarily include people who are unable to afford things most would consider as basic necessities (Hewlett et al., 2022). Similarly, perhaps the public consider food insecurity at the extreme limits i.e., only in terms of people who are experiencing hunger. If so, there may have been an effect on recruitment; for instance, people with worries about access to food may not have considered the survey relevant to them. This does seem unlikely however as the results displayed a range of scores from food secure to high food insecurity. Additionally, it is reasonable to assume that people completing the survey understood the term as the participant information clearly stated the

study was looking at the experience of not always having enough food. Perhaps the addition of a brief definition of the term within the study materials facilitated an understanding, or perhaps food insecurity is already well understood by the public.

Food insecurity was measured using the Adult Food Security Scale Module (AFSSM) (U.S. Department of Agriculture, 2022), which captures data in line with the current understanding of food insecurity by asking questions about food worries. Moreover, it has been utilised in research in high-income countries, including the UK (Evidence and Network on UK Household Food Insecurity, 2022; Long et al., 2017) and has demonstrated good test-retest reliability and internal consistency (Bickel et al., 2000; Marques et al., 2013). It asks about household food insecurity and is therefore not limited to the experiences of one person which may not be representative of the domestic position (Krieger et al., 1997). Participants completing the survey self-identified as food insecure so it was surprisingly that 9.1% of the sample were categorised by the measure as food secure. It is possible that the food secure scores reflect the potential fluctuating nature of food insecurity; for instance, over the six-month study period there may have been people who were food insecure at some point but were overall able to access the food they needed. For example, people may access food aid whilst waiting for benefit payments to be made, but once these have begun may not access food aid again (Bramley et al., 2021). Another possibility is that responding affirmatively to questions about food insecurity contributed towards feelings of worthlessness (Middleton et al., 2018; Purdam et al., 2016; Raphael, 2006) and consequently people minimised their difficulties to psychologically protect themselves. A general criticism of quantitative measures of deprivation is the lack of focus on the experiential aspects (Webb et al., 2006). Therefore, perhaps the AFSSM misses important questions such as those related to cultural and personal experiences in relation to food insecurity (Webb et al., 2006). This could include questions about perceived inequality and societal expectations, and measure the

relative nature of food insecurity. Relative poverty has been associated with feelings of shame, worthlessness and inferiority (Pollard & Booth, 2019; Raphael, 2006) and hence could be important for studies such as this one.

3. Shame

The empirical paper identified that shame did not moderate the relationship between food insecurity and psychological distress; but shame was significantly associated with both variables. Feelings of shame occur when a person believes they are, or that other people perceive them to be flawed, inadequate or deviating from sociocultural norms (Brown, 2006; Dolezal & Lyons, 2017). This highlights the importance of others in situations where a person may feel they are lacking, as well as consideration of sociocultural norms. Being unable to access adequate food, although increasing in prevalence, is not a norm in most high-income countries. However, the occurrence of food insecurity is more or less frequent in particular areas. Perhaps, the lack of a moderating relationship is therefore reflective of using an absolute measure of food insecurity, which narrows the conceptualisation of this variable, rather than a measure which explores the subjective aspects of food insecurity.

The measure of shame used within the empirical paper was the External and Internal Shame Scale (EISS) (Ferreira et al., 2022). This measure was chosen because psychological distress may have a stronger relationship with external shame than internal shame (Kim et al., 2011). I wanted to explore this in a food insecure population where both shame (Bernal et al., 2016; Coates et al., 2006) and psychological distress (Arenas et al., 2019; Myers, 2020; Pourmotabbed et al., 2019) have been found. Internal shame relates to how an individual judges themselves, with attention focused inwards, whereas external shame is about how an individual thinks they are judged by others, with attention focused outwards (Gilbert, 2003). Furthermore, this distinction could be important for mental health professionals working therapeutically with people who are not always able to access enough food. The EISS is a

relatively new measure but has demonstrated internal consistency across five countries ($\alpha <$ .7) (Ferreira et al., 2022; Matos et al., 2023). With the exception of the external shame scale in France which showed questionable internal consistency ($\alpha = .65$) (Matos et al., 2023). Correlations between internal shame/external shame and subscales of psychological distress in this study were significant and nearly identical. Additionally, the shame subscales were significantly and highly correlated with each other. This could reflect the breath of shame in these circumstances; for instance, being food insecure is perceived as shameful by the person affected as well as viewed as shameful by others. Walker et al. (2013) suggests that a failure to live up to societal expectations becomes internalised and this may be reflected here. The moderation was conducted using the total shame subscale only due to the high correlations between subscales.

Another difficulty with the measure of shame is that it is assumed to be related to the experience of not always having access to adequate food; however, it is possible that shame scores are related to wider poverty issues. For instance, the experience of being unemployed (Rantakeisu et al., 1999), negative socioeconomic comparisons (Bosma et al., 2014), or shame which is related to mental health difficulties (Rüsch et al., 2014).

Shame is influenced by the perceptions of others, hence the societal context in which the research took place is important. The empirical study was conducted in the UK, a high-income country where value, identity and position in society is based on being a consumer (Hewlett et al., 2022). This is similar to other high-income countries such as the US, where the ability to spend money is associated with happiness and health (Hill & Gaines, 2007). The findings may therefore be applicable to other high-income countries with a consumer culture.

In the UK, common perceptions of those experiencing deprivation tend to be negative, particularly within the mainstream media (Hewlett et al., 2022; McKendrick et al., 2008). For

instance, people accessing foodbanks have been accused of not being able to cook or manage budgets (Purdam et al., 2016), being lazy, uneducated (Hamelin et al., 2002; Purdam et al., 2016; Thompson et al., 2018), lacking initiative, being unproductive and a burden (McKendrick et al., 2008). This perspective sees deprivation as resulting from a lack of individual effort (Benson et al., 2021; Hewlett et al., 2022) and coincides with a feeling of blame and deservingness towards people in these circumstances (Hewlett et al., 2022). Therefore, within a UK context we could expect high levels of shame reflective of the negative view of people experiencing food insecurity. The extent of this negative perception of people in deprivation has been shown to be unique to the UK (Hewlett et al., 2022) and generalisations to other countries may be limited by this. For instance, findings may differ within the Netherlands where blame is placed upon external factors related to society when people are having difficulty accessing food (Van der Horst et al., 2014).

Further complexities arise when considering the demographics of people experiencing deprivation (Hewlett et al., 2022). For instance, Hewlett et al. (2022) found less negative perceptions for people who were retired or bringing up children, as they were seen to be deserving of support. Yet, people not in employment were blamed for being in poverty, as this was seen to be the result of poor choices and a lack of hard work (Hewlett et al., 2022). We might then expect that those with children in the household experience less shame, specifically external shame. However, this study found a small but significant positive effect between number of children in a household, food insecurity, external shame, depression and stress. Additionally, this study noted a medium association between employment and psychological distress. These results suggest there are differences in the experiences of shame and psychological distress in relation to particular demographics. Future research would benefit from understanding how these groups experience the perceptions of others towards their food insecurity status and how they could be supported in reducing feelings of shame

and psychological distress. Furthermore, Hewlett et al. (2022) suggest that shame is related to perceptions of blame. This was reflected in a study of volunteers and people accessing a food bank; they felt there should be no shame when there is no fault (Van der Horst et al., 2014). This study did not include measures of blame and has potentially missed an important factor in the relationship between food insecurity, shame and psychological distress.

Negative attitudes towards people in poverty have been noted since the 1980's (Hewlett et al., 2022); yet there is a counter narrative which considers deprivation as a consequence of inequalities in systems and hence outside of the individual's control (Benson et al., 2021; Hewlett et al., 2022). This view point is less blaming of the individual but more so of the systems around the person and appears to be increasing its influence. Examples include: benefits not rising in line with inflation, difficulties paying back budgeting loans often obtained due to delays in receiving benefits, unaffordable rent, 'bedroom tax' (Bramley et al., 2021), and financial instability as a result of zero-hours contracts (Wood & Burchell, 2014).

This study has been conducted at a time when the negative views of people in poverty are weakening (Hewlett et al., 2022). For instance, COVID-19 provided a clear and external reason for many people becoming food insecure which reduces the blame placed on the individual (Benson et al., 2021; Hewlett et al., 2022). Importantly, social media has changed how information is received and there is emphasis on systematic influences on poverty which could reduce feelings of shame and blame. For instance, many food aid charities now have a social media presence and are prominent in highlighting the extent of the problem, as well as some of the systemic causes of hardship i.e., Trussell Trust, FareShare. There is also a movement of online digital activists who are challenging the dominant negative narratives around socio-political issues (Feltwell et al., 2017). However, it is too early to tell whether

this shift in perceptions of people experiencing deprivation will continue, or have any lasting impact on feelings of shame.

People in poverty have historically been repressed (Feltwell et al., 2017) or portrayed as passive victims (McKendrick et al., 2008) and this was an important consideration when planning this study. I therefore consulted with a small group of food aid recipients, volunteers and staff in the early stages of this research: firstly, to reduce the likelihood of distress by gathering feedback on the wording of the study materials; and secondly, in a small way to challenge the negative narratives and demonstrate the value of this group's contributions. To continue this throughout the research, a summary of the study findings will be provided to the organisation which facilitated the feedback session, with an invitation to comment on the findings.

4. Future Research and Conclusion

To conclude, research conducted into poverty issues is complex and influenced by many demographic and psychological factors. By conducting my thesis in this area, I wanted to understand some of the difficulties faced by people experiencing deprivation and to propose ideas for how services could improve. The empirical paper identified the role of shame in the experiences of people who are food insecure and also found relationship with psychological distress. Whilst no moderation was found between these variables, this study was underpowered which limits the conclusions which can be drawn. Future research conducted in this area should focus on the relative and experiential nature of deprivation. This information could inform statutory and third sector organisations on how to better support people. Additionally, the role of blame would be an interesting factor to explore further, particularly with longitudinal studies which could demonstrate any influences of a changing narrative towards deprivation. Understanding the role of blame, particularly the

perceptions of the public, could influence the way in which food aid organisations talk about food aid i.e., there may be more of an emphasis on systemic issues.

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Section Four: Ethics Proposal

Ethics proposal for the empirical study: Food insecurity and the role of shame in psychological distress. A cross-sectional study.

Stephanie Walsh

Doctorate in Clinical Psychology

Lancaster University

Word Count (excluding references, tables and appendices): 7588

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Ethics Application Form

Faculty of Health and Medicine Research Ethics Committee (FHMREC)
Lancaster University

Application for Ethical Approval for Research

for additional advice on completing this form, hover cursor over 'guidance'.

Guidance on completing this form is also available as a word document

Title of Project: Food insecurity, psychological distress and the role of shame. A cross-sectional study

Name of applicant/researcher: Stephanie Walsh

ACP ID number (if applicable)*: N/A **Funding source (if applicable)** N/A

Grant code (if applicable): N/A

***If your project has *not* been costed on ACP, you will also need to complete the Governance Checklist [link].**

Type of study

☐ Involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants. **Complete sections one, *two* and four of this form**

X Includes *direct* involvement by human subjects. **Complete sections one, *three* and four of this form**

SECTION ONE

1. Appointment/position held by applicant and Division within FHM Trainee Clinical Psychologist, Doctorate in Clinical Psychology

2. Contact information for applicant:

E-mail: s.walsh11@lancaster.ac.uk **Telephone**: 07824429087 (please give a number on which you can be contacted at short notice)

Address: Doctorate in Clinical Psychology, Health Innovation One, Sir John Fisher Drive, Lancaster University, Lancaster, LA1 4AT

16. **Names and appointments of all members of the research team (including degree where applicable)**

Professor William Sellwood, Professor of Clinical Psychology, Lancaster University
Dr Anna Duxbury, Honorary Clinical Tutor and Clinical Psychologist, Lancaster University

3. If this is a student project, please indicate what type of project by marking the relevant box/deleting as appropriate: (please note that UG and taught masters projects should complete **FHMREC form UG-tPG**, following the procedures set out on the FHMREC website

PG Diploma ☐ Masters by research ☐ PhD Thesis ☐ PhD Pall. Care ☐

PhD Pub. Health ☐ PhD Org. Health & Well Being ☐ PhD Mental Health ☐ MD ☐

DclinPsy SRP ☐ [if SRP Service Evaluation, please also indicate here: ☐] DclinPsy Thesis **X**

16. **Project supervisor(s), if different from applicant**:

Professor William Sellwood and Dr Anna Duxbury

16. **Appointment held by supervisor(s) and institution(s) where based (if applicable)**:

Professor William Sellwood, Professor of Clinical Psychology, Lancaster University
Dr Anna Duxbury, Honorary Clinical Tutor and Clinical Psychologist, Lancaster University

SECTION TWO
Complete this section if your project involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants

16. Anticipated project dates (month and year)

Start date: End date:

16. Please state the aims and objectives of the project (no more than 150 words, in lay-person's language):

Data Management
For additional guidance on data management, please go to Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

16. Please describe briefly the data or records to be studied, or the evaluation to be undertaken.

4a. How will any data or records be obtained?

4b. Will you be gathering data from websites, discussion forums and on-line 'chat-rooms' n o
4c. If yes, where relevant has permission / agreement been secured from the website moderator? n o
4d. If you are only using those sites that are open access and do not require registration, have you made your intentions clear to other site users? n o

4e. If no, please give your reasons

16. What plans are in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.

6a. Is the secondary data you will be using in the public domain? n o
6b. If NO, please indicate the original purpose for which the data was collected, and comment on whether consent was gathered for additional later use of the data.

Please answer the following question *only* if you have not completed a Data Management Plan for an external funder
7a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

7b. Are there any restrictions on sharing your data?

8. Confidentiality and Anonymity
a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications? yes
b. How will the confidentiality and anonymity of participants who provided the original data be maintained?

9. What are the plans for dissemination of findings from the research?

10. What other ethical considerations (if any), not previously noted on this application, do you think there are in the proposed study? How will these issues be addressed?

SECTION THREE
Complete this section if your project includes *direct* involvement by human subjects

16. Summary of research protocol in lay terms (indicative maximum length 150 words):

People who do not have enough food experience high levels of psychological distress (depression and anxiety). The aim of this project is to look at whether shame affects depression and anxiety when people have to ask for help with feeding themselves and their families. This project will consider shame in relation to how people think about themselves and the way they may feel judged by others. Individuals who have experienced some level of food insecurity in the previous 6 months will be recruited mainly via an online survey; paper copies will be available at a limited number of relevant locations local to the lead researcher. The survey will include measures of food insecurity, shame and psychological distress and will be advertised on social media (twitter and Facebook community groups, as well as Reddit). A minimum of 127 participants are required to detect a medium effect size between variables.

16. **Anticipated project dates (month and year only**)

Start date: 10/21 End date 03/23

Data Collection and Management
For additional guidance on data management, please go to Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

16. Please describe the sample of participants to be studied (including maximum & minimum number, age, gender):

Participants will be adults (18 years and over) who self-identify as having experienced some level of food insecurity in the previous 6 months. There is no upper age limit or specific gender requirements. Participants will be required to have a basic English reading level to complete the survey. This is due to time and funding limitations meaning it will not be possible to provide the survey in any other languages. Additionally, whilst some of the measures used within the survey have been validated in other languages, others have not.

It is estimated that a minimum sample size of 127 participants is required to detect a medium effect size (.15), with an alpha of .05 and a standard power level of .8 when three predictors are present (Warner, 2012). This provides a useful estimate to consider the number of participants required in a moderation analysis.

16. How will participants be recruited and from where? Be as specific as possible. Ensure that you provide the *full versions* of all recruitment materials you intend to use with this application (eg adverts, flyers, posters).

A poster containing a description of the study, eligibility criteria and information on how to take part will be posted on Facebook community pages relevant to food insecurity. A Facebook account under the name Stephanie Walsh will be set up for the sole purpose of advertising the project. Additionally, the poster will be advertised on Twitter and relevant food insecurity accounts will be tagged and asked to retweet. The twitter post will come from a professional account for Stephanie Walsh and will include a link to the Qualtrics survey. A Reddit account will be created in order to advertise the research poster and link to the Qualtrics survey. This will again be a professional account with the sole purpose of advertising the study. Specific Facebook community groups/ twitter pages/ subreddits have not yet been identified which is appropriate given the changing nature of social media and means the advertisement of the survey will not be restricted. Furthermore, guidance on relevant sites to advertise will be sought from those experiencing food insecurity. By clicking on the link in the poster participants will access the survey through Qualtrics.

To enable questions about the study, email addresses for the research team will be provided. The survey will be compatible for completion on a PC, tablet or mobile phone (including iOS, Android, and Windows Phone systems) to facilitate accessibility. Furthermore, paper copies and SAE will be provided to a limited number of relevant locations local to the lead researcher. Assuming this is permissible with the government COVID-19 guidance and with the relevant organisations during the recruitment phase of the project. Support in the distribution of the study materials has already been obtained from a number of organisations which support individuals to access food.

16. Briefly describe your data collection and analysis methods, and the rationale for their use.

Data collection will be via an online survey using Qualtrics, which is compatible for completion on a PC or tablet as well as mobile phones with iOS, Android, and Windows Phone systems. Qualtrics enables mobile friendly formatting options; for instance, questions with Likert scales can be formatted so all options will fit comfortably on one screen. The survey will contain a total of 39 questions plus any demographic questions and is estimated to take approximately 10-15 minutes to complete. In designing the survey, consideration has been given to the length to acknowledge that individuals may use their mobile data to complete it. An online survey facilitates data collection from across the UK. However, it is recognised that accessibility to an online survey may not be feasible for individuals requiring the use of food aid. Therefore, paper copies of the survey, along with SAE, will be available at a limited number of relevant locations local to the lead researcher. Data from the paper copies will be manually inputted into Qualtrics by the lead researcher and will then be destroyed.

Once the project reaches capacity, data will be exported from Qualtrics into SPSS. Total scores for measures of food insecurity, shame and psychological distress will be calculated; reversing any negatively worded items. Initially, descriptive statistics will be produced to check the data are not violating test assumptions and to explore the relationship between variables. Where a relationship between variables is suggested the strength and direction of this relationship will be explored through correlational analysis and partial correlational analysis. Linear regression analysis will then be conducted using the PROCESS tool in SPSS (Hayes, 2017), using an appropriate moderation analysis and controlling for relevant demographic factors.

16. What plan is in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc.)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.

Anonymous data gathered through the survey will be stored on the lead researcher's password protected Qualtrics account. Following recruitment this data will be exported to SPSS and securely stored on the Lancaster University OneDrive. Data from the paper copies of the survey will be inputted into Qualtrics manually by the lead researcher. The paper copies will then be destroyed. Only the research team named above and the research coordinator will have access to the data gathered as part of this project. Once the project is complete the data will be sent to the Lancaster University Doctorate in Clinical Psychology Research Coordinator. The data will be stored by the university for 10 years and will then be destroyed. Participants will be given the option to opt in to receive a summary of the research by submitting an email address during the debrief stage. This information will be kept in a separate encrypted file to the study data.

7. Will audio or video recording take place? X no ☐ audio ☐ video

a. Please confirm that portable devices (laptop, USB drive etc) will be encrypted where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data. N/A

b What arrangements have been made for audio/video data storage? At what point in the research will tapes/digital recordings/files be destroyed?

N/A

Please answer the following questions *only* if you have not completed a Data Management Plan for an external funder

8a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

The data will be stored securely by the Doctorate in Clinical Psychology course at Lancaster University for 10 years, after which time it will be destroyed. Additionally, data will be deposited in Lancaster University's institutional data repository and made freely available with an appropriate data license.

8b. Are there any restrictions on sharing your data?

No. Data will be collected anonymously from across the UK so participants will not be identifiable.

9. Consent
a. Will you take all necessary steps to obtain the voluntary and informed consent of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law? yes

b. Detail the procedure you will use for obtaining consent?

The poster and accompanying text (via Twitter and Facebook and Reddit) will provide details about the project. Participants can follow a link to the survey where there will be a participant information page. Following this there will be a list of statements detailing what participants are consenting to alongside forced choice boxes. Participants must agree to the accompanying statements before proceeding with the survey. If all boxes are not ticked the participant will be unable to proceed. It will be clearly stated that by completing the survey participants are providing consent for the use of the data for research. Once a participant has begun the survey, they can stop at any time by closing down the browser; data will only be stored once the survey has been completed.

For participants completing paper copies of the survey, the same participant information will be available alongside the statements and check boxes. If all boxes are not marked upon return the data will not be entered and the paper copy will be destroyed.

10. What discomfort (including psychological eg distressing or sensitive topics), inconvenience or danger could be caused by participation in the project? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.

Topics included within this project are potentially sensitive or distressing for participants. A consultation has been conducted with individuals who have experience of food insecurity to gain their views on the content and wording of the study materials (omitting the measures). This will help to reduce the likelihood of any distress being caused through the language used. Additionally, participants will be signposted to sources of support should they become distressed; these details are included in the participant information and debrief sections.

Once participants have completed the survey it will not be possible for their data to be removed. All data are anonymous and therefore the researcher team will be unable to identify individual participants' responses. This will be clearly explained in the participant information and participants will consent to this before beginning the survey.

11. What potential risks may exist for the researcher(s)? Please indicate plans to address such risks (for example, noting the support available to you; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you will follow, and the steps you will take).

No risks identified.

12. Whilst we do not generally expect direct benefits to participants as a result of this research, please state here any that result from completion of the study.

There will be no direct benefits to participants and this will be acknowledged in the participant information sheet. Participants may find contributing to the project a worthwhile experience.

13. Details of any incentives/payments (including out-of-pocket expenses) made to participants:

None. I had considered the use of a prize draw to aid recruitment, however, Cobanoglu and Cobanoglu (2003) suggest this has little effect on response rates in a web-based survey. Furthermore, offering the chance of financial gain to a disadvantaged target population is problematic and without the use of a prize draw I can be confident that individuals participating are doing so freely.

14. Confidentiality and Anonymity
a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications? yes
b. Please include details of how the confidentiality and anonymity of participants will be ensured, and the limits to confidentiality.

All data entered into the survey will be anonymous as participants are not required to enter any personal information.

15. If relevant, describe the involvement of your target participant group in the *design and conduct* of your research.

Prior to the design of the project, the lead researcher visited a local food bank and spoke with volunteers to develop an understanding of food insecurity and food aid. These discussions informed the content and design of the project. Furthermore, those experiencing food insecurity have been consulted with on the content and wording of the study materials, and plans for recruitment.

16. What are the plans for dissemination of findings from the research? If you are a student, include here your thesis.

The project will be submitted as part of the lead researcher's thesis for the Doctorate in Clinical Psychology. The project will also be submitted for publication in a peer reviewed journal. At the end of the survey participants will be given the option of submitting a contact email address to receive a summary of the findings. This information will be kept in an encrypted document separate from the survey results to protect anonymity. The findings will also be disseminated to groups with an interest in community psychology, such as Psychologists for Social Change and the Beyond the Therapy room conference. As well as informal dissemination through a blog, newspapers etc. The lead researcher will also return to the location of the study materials consultation to disseminate findings.

17. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FHMREC?

Data for this project are being obtained using a mainly online recruitment strategy for a number of reasons: to access a UK wide sample; to obtain the numbers required to carry out a moderation analysis; and as a reflection of planning research during a global pandemic. Whilst this is a pragmatic decision it is acknowledged that individuals who are unable to access the internet could be excluded from participating, furthermore, it is perhaps these individuals who are experiencing the highest level of food insecurity. With this in mind, paper copies of the survey, along with SAE, will be made available which makes some contribution to addressing this issue. Additionally, the survey has been designed to be compatible with most mobile phones (including iOS, Android, and Windows Phone systems) with the view that participants could complete the survey by connecting to free Wi-Fi. Also, survey completion time has been kept to a minimum.

Ethical Approval Letter

Applicant: Stephanie Walsh
Supervisor: Professor William Sellwood and Dr Anna
DuxburyDepartment: DHR
FHMREC Reference: FHMREC21021

16 November 2021

Re: FHMREC21021
Food insecurity, psychological distress and the role of shame. A cross-sectional study

Dear Stephanie,

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC)**. The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirementsin order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adversereactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to theResearch Ethics Officer for approval.

Please contact me if you have any queries or require further

information.Email: fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

T. Morley

Tom Morley,
Research Ethics Officer, Secretary to FHMREC.

Study Protocol

Food insecurity, psychological distress and the role of shame. A cross-sectional study.

Ethics Documentation

Version 1 (23/09/2021)

Name of applicant: Stephanie Walsh, Trainee Clinical Psychologist

Supervisors: Professor William Sellwood and Dr Anna Duxbury, Research Supervisors, Lancaster University

Social Determinants of Health (SDH) are the conditions in which people are born, grow, work, live, and age (World Health Organisation, 2010), and are influenced by wider systems. Food insecurity is a type of economic social determinant commonly defined within the research literature as: "limited or uncertain availability of nutritionally adequate and safe foods" (Taylor & Loopstra, 2016). Estimates of the prevalence of food insecurity in the UK vary. Possible explanations for this include the subjective definition of the term 'food insecurity', differing level categorisations within the measures, and data only being gathered by the government since 2019. Nevertheless, between 5.6-10% of UK households were reported to be food insecure in 2018 (Evidence and Network on UK Household Food Insecurity, 2022; Food Standards Agency, 2020; Sosenkno et al., 2019). The National Statistics Family Resources Survey published in March 2021 found that 8% of households surveyed were low or very low in food security (Department for Work and Pensions, 2021). The data for this survey was collected prior to the global pandemic and since the first national UK lockdown in March 2020 estimates of food insecurity have risen and remain above the pre-pandemic figures (Bhattacharya & Shepherd, 2020; Goudie & McIntyre, 2021). For

instance, a study by the Food Foundation estimates that between August 2020 and January 2021 4.1 million adults have experienced food insecurity (Goudie & McIntyre, 2021); with one in four UK adults struggling to access food they could afford during the pandemic (Defeyter et al., 2020).

Policy decisions such as changes to the benefits system, funding cuts to services, low salary contracts and a rising cost of living have been implicated in an increase in food insecurity (Jitendra, Thorogood, & Hadfield-Spoor, 2018). Furthermore, financial implications of the global pandemic exacerbated the pressures for many households. For instance, school closures resulted in the need for families to fund additional meals (Defeyter et al., 2020) and reduced hours, job losses and individuals becoming furloughed meant many households had a reduction in income (Bhattacharya & Shepherd, 2020).

Whilst there is an overlap between areas which are high in poverty and low in food security (UNICEF, 2017); the picture is more complex than simply a financial concern. For instance, isolation, a lack of supply (Goudie & McIntyre, 2021) and challenging life experiences have (Bhattacharya & Shepherd, 2020) also been implicated in contributing towards the necessity of emergency food aid. Also, levels of food insecurity have been found to be higher for people with health problems or disabilities and BAME groups (Goudie & McIntyre, 2021).

Impact on Psychological well-being

Food insecurity and psychological distress are closely linked. A recent review of the literature found a significant and positive association between food insecurity and psychological distress across a range of population groups (Myers, 2020); a finding supported by other studies (Atuoye & Luginaah, 2017; Grisaru, Kaufman, Mirsky, & Witztum, 2010). More specifically, links have been presented between food insecurity and suicide attempts (Koyanagi et al., 2019; Pryor et al., 2016), anxiety (Power, Uphoff, Kelly, & Pickett, 2016)

and depression (Abrahams, Lund, Field, & Honikman, 2018; Heflin, Siefert, & Williams, 2005; Lee & Kim, 2019; Parpouchi, Moniruzzaman, Russolillo, & Somers, 2016; Payne-Sturges, Tjaden, Caldeira, Vincent, & Arria, 2017; Pryor et al., 2016; Siefert, Heflin, Corcoran, & Williams, 2001). Additionally, food insecurity caused by the COVID-19 pandemic was found to increase the risk of depression and anxiety (Fang, Thomsen, & Nayga, 2021).

Shame

The SDH framework highlights the impact of societal norms on social determinants and health outcomes. When an individual does not meet the expectations of societal norms this can lead to feelings of shame. Shame is considered an intense, unwanted universal human emotion (Ferreira, Moura-Ramos, Matos, & Galhardo, 2022) with distinctions being made between external and internal shame. Internal shame relates to an individual judging themselves negatively, whereas external shame is linked to how an individual feels they are judged by others (Gilbert, 2003).

An inability to adequately provide food has been associated with shame (Hamelin, Beaudry, & Habicht, 2002) and is a persistent theme across cultures (Coates et al., 2006). After reviewing studies of shame and food insecurity it was not always possible to differentiate between internal and external shame as studies did not always identify the source of the judgement experienced. However, Swales, May, Nuxoll, and Tucker (2020) conducted interviews and identified the influence of both internal and external shame.

Overall, the role of external shame appears to have received more attention; with increasing support for a link between food insecurity and the shame of others knowing (external shame) (Bernal, Frongillo, & Jaffe, 2016). Many studies have focused on the stigmatisation surrounding strategies aimed at reducing food insecurity. For instance, stigmatisation of food aid has been shown to intensify feelings of shame (Swales et al., 2020)

and can even become a barrier to accessing this type of support (Bhattacharya & Shepherd, 2020; Booth, 2006; Coates et al., 2006; Defeyter et al., 2020). Furthermore, other strategies developed to obtain food in response to food insecurity may be considered shameful; for example, stealing, or sending children to eat with (Defeyter et al., 2020; Nanama & Frongillo, 2012), borrowing money for food or purchasing food on credit (Wolfe, Frongillo, & Valois, 2003).

External shame has been associated with a significantly stronger association with depression than internal shame (Thibodeau, Kim, & Jorgensen, 2011); possibly related to the social implications of feeling judged by others.

Rationale for study

Currently measures of food insecurity focus on the uncertainty and insufficiency of food, but the growing research base suggests that the unacceptability of strategies aimed at accessing food is also an important factor (Bernal et al., 2016). The perceived unacceptability of these strategies alongside not wanting others to know about experiences of food insecurity, due to feelings of shame, has largely been identified through qualitative studies. However, little is known about the prevalence of shame in food insecure populations and the influence of shame on the psychological distress commonly experienced. Subsequently, this project aims to consider 1) the relationship between food insecurity and psychological distress (depression, anxiety and stress) and 2) whether shame moderates the relationship between these variables; looking at the role of external and internal shame as separate constructs.

Understanding the role of shame on the psychological distress experienced by individuals who are food insecure will have direct implications for those working in mental health settings. Given support for a relationship between food insecurity and poorer mental health, clinical psychologists are likely to work with individuals who are struggling to provide enough food for themselves or their household. On a clinical level the role may be to

facilitate access to means of obtaining food for an individual (through a referral to a food bank), or perhaps by working with feelings of shame. Furthermore, in agreement with the SDH framework, Shim and Compton (2020) argue that it is the responsibility of mental health professionals to influence public polices and social norms to improve the mental health of the population.

Method

This project aims to understand the relationship between food insecurity and psychological distress whilst considering shame as a moderator variable. The assumption is that higher food insecurity will be associated with higher psychological distress, but that the strength of this relationship is dependent on levels of shame. No prediction is being made as to whether there will be any differences between internal shame and external shame in relation to psychological distress. Both types have been associated with depression, although Thibodeau et al. (2011) found a stronger link with external shame, rather than internal shame, and psychological distress. The moderator hypothesis will be supported if the interaction between food insecurity and shame is significant.

Participants

Participants will be adults (18 years and over) who self-identify as having had limited or uncertain availability of food within the previous 6 months. There is no upper age limit or specific gender requirements. Participants will be required to have a basic English reading level to complete the online survey. Due to time and funding limitations, it will not be possible to provide the survey in any other languages. Additionally, whilst some of the measures used within the survey have been validated in different languages, others have not.

It is estimated that a minimum sample size of 127 participants are required to detect a medium effect size (.15), with an alpha of .05 and a standard power level of .8 when three

predictors are present (Warner, 2012). This provides a useful estimate to consider the number of participants required in a moderation analysis.

Design

A cross-sectional design will be used to gather data on food insecurity, shame and psychological distress for a sample of individuals who have experienced limited access to food in the previous six months. This design enables a number of variables to be measured at one time, whilst also gathering data on other potentially important variables, such as age, gender, household (number of adults and children), occupational status and ethnicity.

Materials

A mainly online survey approach has been chosen to facilitate data collection across the UK. The survey will be created using Qualtrics and mobile friendly formatting options are available. The following measures will be included; they are available to use without requesting permission and are identified as being appropriate for research purposes as well as a UK population.

- The U.S Adult Food Security Survey Module (U.S. Department of Agriculture, 2022) provides a raw score from the sum of affirmative responses which can be categorised into four levels of food security: high, marginal, low and very low. There are a maximum of 10 items; however, screener questions are incorporated which may reduce the number of questions depending on responses provided. Good reliability and validity have been reported for this measure (Bickel, Nord, Price, Hamilton, & Cook, 2000) and it is suitable for gathering data on food security through self-administration (Bickel et al., 2000; Fang et al., 2021; Kuehn, Wilson, Perry, & Martinez, 1999; Soldavini, Berner, & Da Silva, 2019). Whilst developed in the U.S. this measure has been used with populations around the world, including the UK (Evidence and Network on UK Household Food Insecurity, 2022; Long et al., 2017).

- Depression Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995). This will measure negative emotional states which have been linked to food insecurity. The DASS-21 consists of 21 items and uses four-point severity/ frequency scale the results of which are scored to reveal individual ratings of depression, anxiety and stress. It is suitable for non-clinical samples and recommended cut-off scores for severity labels (normal, moderate, severe) are available. Adequate construct validity and high reliability has been reported for this measure (Henry & Crawford, 2005). Total scale score will be used in analysis.
- External and Internal Shame Scale (EISS) (Ferreira et al., 2022). is a newly developed measure which quantifies external and internal shame as separate concepts, as well as a global score of shame. There are 8 items and a 5-point scale (0 = "Never" to 4 = "Always"), with higher scores indicating higher levels of shame. Shame is measured across 4 core domains: inferiority/inadequacy, exclusion, emptiness and criticism. Good reliability has been shown for the subscales of external (.80) and internal (.82) shame (Ferreira et al., 2022).

Overall, the survey will contain a maximum total of 39 questions plus any demographic questions and is estimated to take approximately 10-15 minutes to complete. In designing the survey, consideration has been given to the length to acknowledge that individuals may use their mobile data to complete it.

Procedure

A poster containing a description of the study, eligibility criteria and information on how to take part (appendix A) will be posted on Facebook community pages relevant to food insecurity. A Facebook account under the name Stephanie Walsh will be set up for the sole purpose of advertising the project. Additionally, the poster will be advertised on Twitter and relevant food insecurity accounts will be tagged and asked to retweet. The twitter post will

come from a professional account for Stephanie Walsh and will include a link to the Qualtrics survey. Specific Facebook community groups/ twitter pages have not yet been identified which is appropriate given the changing nature of social media and means the advertisement of the survey will not be restricted. Furthermore, guidance on relevant sites to advertise the project will be sought from those experiencing food insecurity. By clicking on the link in the poster participants will access the survey through Qualtrics.

To enable questions about the study, email addresses for the research team will be provided. The survey will be compatible for completion on a PC, tablet or mobile phone (including iOS, Android, and Windows Phone systems) to facilitate accessibility. Whilst an online survey supports data collection from across the UK, it is recognised that accessibility to an online survey may not be feasible for all individuals requiring the use of food aid. With this in mind, paper copies and SAE will be provided to a small number of relevant locations local to the lead researcher. Assuming this is permissible with the government COVID-19 guidance and with the relevant organisations during the recruitment phase of the project. Support for the distribution of paper copies of the study materials has already been obtained from a number of organisations which support individuals requiring food aid. Data from the paper copies will be manually inputted into Qualtrics by the lead researcher and will then be destroyed.

Participants who follow the link to the survey on Qualtrics will firstly see a participant information page containing information about the project (appendix B). The next page will contain statements pertaining to consent, alongside these statements will be forced choice responses which participants must agree to before being able to proceed. The following pages of the survey will gather demographic data and include questions from the measures detailed above (appendix C). Once participants have completed the survey there will be a debrief

information page (appendix D). The debrief will include the contact numbers of organisations which can provide support should participants feel distressed by the content of the survey.

Data Analysis

Once the required number of completed surveys has been achieved, data will be exported from Qualtrics into SPSS. The data stored on both of these platforms will be password protected and only accessed by the research team, and the research coordinator upon submission of the project. Total scores for measures of food insecurity, shame and psychological distress will be calculated; reversing any negatively worded items. Initially, descriptive statistics will be produced to check the data are not violating test assumptions and to explore the relationship between variables. Where a relationship between variables is suggested the strength and direction of this relationship will be explored through correlational analysis and partial correlational analysis. Linear regression analysis will then be conducted with the PROCESS tool in SPSS (Hayes, 2017), using an appropriate moderation analysis and controlling for demographic factors.

Dissemination

The project will be submitted as part of the lead researcher's thesis for the Doctorate in Clinical Psychology. The project will also be submitted for publication in a peer reviewed journal. At the end of the survey participants will be given the option of submitting a contact email address to receive a summary of the findings. This information will be kept in an encrypted document separate from the survey results to protect anonymity. The findings will also be disseminated to groups with an interest in community psychology, such as Psychologists for Social Change and the Beyond the Therapy room conference. As well as informal dissemination through a blog, newspapers etc. Findings will also be shared with the organisation which facilitated the consultation of the study materials.

Practical/ ethical Issues

Data for this project is being obtained using a mainly online recruitment strategy for a number of reasons: to access a UK wide sample; to obtain the numbers required to carry out a moderation analysis; and as a reflection of planning research during a global pandemic. Whilst this is a pragmatic decision it is acknowledged that individuals who are unable to access the internet could be excluded from participating, furthermore, it is perhaps these individuals who are experiencing a higher level of food insecurity. With this in mind, paper copies of the survey, along with SAE, will be made available which makes some contribution to addressing this issue. Additionally, the survey has been designed to be compatible with most mobile phones (including iOS, Android, and Windows Phone systems) with the view that participants could complete the survey by connecting to free Wi-Fi. Survey completion time has also been kept to a minimum by being cautious of the number of questions asked.

The content of the survey could potentially be distressing to individuals who are struggling to access food and contact numbers for support will be provided at the start of the survey and at the debrief stage. Furthermore, a consultation has been conducted with individuals who have experience of food insecurity to gain their views on the content and wording of the study materials (omitting the measures). This will help to reduce the likelihood of any distress being caused through the language used. It is not anticipated that individual's will be exposed to any distress which is greater than what they may experience day-to-day (Barrett, 2006).

Project Timescale

Aug/ Sept 21 Prepare ethics application

Oct 21: Ethics submission

Nov 21- Dec 21: Data collection

Dec 21- Jan 22: Analysis

Feb 22- Mar 22: Submit drafts

Mar 22- Apr 22: Make amendments

May 22: Submit finalised thesis

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Appendices

Appendix 4A: Study Poster

Food insecurity, psychological distress and shame

My name is Steph Walsh and I am conducting this research as part of my final year on the Clinical Psychology Doctorate at Lancaster University.

What is the study about?

This study will look at the experience of not always having enough food and the links with worry, low mood and stress. We will also look at what people think of themselves and whether people feel judged by others.

Can I take part?

The research is for anyone aged 18 years or older, living in the UK, who has needed some help to be able to access enough food within the last 6 months.

What will I be asked to do if I choose to take part?

You will be asked to complete a 15-minute survey. The survey will include questions about food availability and emotional distress.

The survey can be completed online using the following link: [insert link]

OR

You can request a paper copy of the survey, along with a stamped addressed envelope from a member of staff at the venue where this poster is located.

If you have any questions about the study please get in touch with: Steph Walsh (s.walsh11@lancaster.ac.uk); or research supervisor, Bill Sellwood (b.sellwood@lancaster.ac.uk)

Appendix 4B: Participant Information Sheet

Participant Information

Food insecurity, psychological distress and shame

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

Thank you for considering taking part in this study. My name is Steph Walsh and I am conducting this research as part of my final year on the Clinical Psychology Doctorate at Lancaster University.

What is the study about?

This study will look at the experience of not always having enough food and whether this links to worry, low mood and stress. We will also look at what people think of themselves and whether people feel judged by others.

Who can take part?

The research is for anyone aged 18 years or older, living in the UK, who has needed some help to be able to access enough food within the last 6 months.

What will I be asked to do if I take part?

You will be asked to complete a 15-minute survey. The survey will include questions about food availability and emotional distress.

Do I have to take part?

No. It's completely up to you to decide whether or not you take part. Your participation is voluntary.

Will my data be Identifiable?

No. You will not be asked to give any personal information. All responses will be stored securely using password-protection and only the research team involved in this study will have access to this information.

Returned paper copies of the survey will be kept in a locked cabinet until the data is entered into the survey program by the lead researcher.

What will happen to the results?

The results will be reported in a thesis and may be submitted for publication in a journal. The results will also be made available online through websites related to food insecurity. For those who choose to participate, there is the option at the end of the survey to give your email address to receive a summary of the study directly. Email addresses will be stored separately to the study data.

Are there any risks?

There are no risks expected with participating in this study. However, if you experience any distress after taking part please use the contact information provided to get support.

- Your doctor (GP)
- The Samaritans helpline 116 123 or website www.samaritans.org

Are there any benefits to taking part?

Although you may find participating interesting, there are no direct benefits in taking part.

Who has reviewed the project?

This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University.

Where can I obtain further information about the study if I need it?

If you have any questions about the study please get in touch with: Steph Walsh (s.walsh1@lancaster.ac.uk); or research supervisor, Bill Sellwood (b.sellwood@lancaster.ac.uk)

Complaints

If you wish to make a complaint or raise concerns about this study and do not want to speak to the research team, you can contact:

Dr Ian Smith, Research Director for Doctorate in Clinical Psychology, Division of Health Research, Innovation Hub One, Lancaster University, Lancaster, LA1 4YG.
Email: i.smith@lancaster.ac.uk
Tel: 01524 592282

If you wish to speak to someone outside of the Clinical Psychology Doctorate Programme, you may also contact:

Dr Laura Machin, Chair of FHM REC, Faculty of Health and Medicine, Lancaster University, Lancaster, LA1 4YG.
Email: l.machin@lancaster.ac.uk
Tel: 01524 594973

Thank you for taking the time to read this information sheet.

Appendix 4C: Consent Form

Consent form

Please put a tick in the box next to the statement to confirm that you agree with the statement. All boxes must be ticked for your information to be included in the study.

By proceeding with the survey, you confirm that:

- You have read the participant information and understand what is expected of you within this study ☐
- Your participation is voluntary ☐
- You understand that once your data has been submitted it will not be possible to withdraw it from the study ☐
- You consent for the information you provide to be used for research purposes ☐
- You consent to Lancaster University keeping the anonymised data for a period of 10 years after the study has finished ☐
- You are 18 years or older ☐
- You are living in the UK ☐
- You agree to take part in the study ☐

Appendix 4D: Survey Questions

Food insecurity, psychological distress and shame

Q1. What is your age? _____

Q2. What is your gender?

- □ Male
- □ Female
- □ Prefer to self-describe
- □ Prefer not to say

Q3. What is your ethnicity?

- □ Asian or Asian British
- □ Black African, Caribbean or Black British
- □ Mixed or multiple ethnic groups
- □ White
- □ Any other ethnic group
- □ Prefer not to say

Q4. What is your current employment status?

- □ Employed full-time (37+ hours a week)
- □ Employed part-time (less than 37 hours a week
- □ Unemployed
- □ Student
- □ Retired
- □ Self-employed
- □ Unable to work
- □ On maternity/paternity leave

Q5. How many adults (18 years and over) live in your household? _____

Q6. How many children live in your household? _____

Q7. Which of these statements best describes the food eaten in your household in the last 6 months:

- □ Enough of the kinds of food I/we want to eat
- □ Enough but not always the kinds of food I/we want
- □ Sometimes not enough to eat
- □ Often not enough to eat
- □ Don't Know

You will now read several statements that people have made about their food situation. For these statements, please tell me whether the statement was often true, sometimes true, or never true for (you/your household) in the last 6 months.

Q8. "I worried whether food would run out before (I/we) got money to buy more." Was that often true, sometimes true, or never true for (you/your household) in the last 6 months?

□ Often true
□ Sometimes true
□ Never true
□ Don't Know

Q9. "The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more." Was that often, sometimes, or never true for (you/your household) in the last 6 months?

□ Often true
□ Sometimes true
□ Never true
□ Don't Know

Q10. "(I/we) couldn't afford to eat balanced meals." Was that often, sometimes, or never true for (you/your household) in the last 6 months?

□ Often true
□ Sometimes true
□ Never true
□ Don't Know

Q11. In the last 6 months, did (you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?

□ Yes
□ No (skip to question 12)
□ Don't know (skip to question 12)

Q11a. How often did this happen?

□ Almost every month
□ Some months but not every month
□ Only 1 or 2 months
□ Don't Know

Q12. In the last 6 months, did you ever eat less than you felt you should because there wasn't enough money for food?

□ Yes
□ No
□ Don’t know

Q13. In the last 6 months, were you ever hungry but didn't eat because there wasn't enough money for food?

□ Yes
□ No
□ Don’t know

Q14. In the last 6 months, did you lose weight because there wasn't enough money for food?

□ Yes
□ No
□ Don’t know

Q15. In the last 6 months, did (you or other adults in your household) ever not eat for a whole day because there wasn't enough money for food?

□ Yes
□ No (skip to question 16)
□ Don’t know (skip to question 16)

Q15a. How often did this happen?

□ Almost every month
□ Some months but not every month
□ Only 1 or 2 months
□ Don’t Know

Q16. Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the <u>past week</u>. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of the time
3 Applied to me very much or most of the time

I found it hard to wind down	0	1	2	3
I was aware of dryness of my mouth	0	1	2	3
I couldn't seem to experience any positive feeling at all	0	1	2	3
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
I found it difficult to work up the initiative to do things	0	1	2	3
I tended to over-react to situations	0	1	2	3
I experienced trembling (e.g. in the hands)	0	1	2	3
I felt that I was using a lot of nervous energy	0	1	2	3
I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
I felt I had nothing to look forward to	0	1	2	3

I found myself getting agitated	0	1	2	3
I found it difficult to relax	0	1	2	3
I felt down-hearted and blue				
I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
I was close to panic	0	1	2	3
I was unable to become enthusiastic about anything	0	1	2	3
I felt I wasn't worth much as a person	0	1	2	3
I felt that I was rather touchy	0	1	2	3
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
I felt scared without any good reason	0	1	2	3
I felt that life was meaningless	0	1	2	3

Q17. Please read each statement and circle a number 0, 1, 2, 3 or 4 which indicates how much the statement applies to you.

The rating scale is as follows:

0 Never
1 Rarely
2 Sometimes
3 Often
4 Always

In relation to several aspects of my life, I feel that:

Other people see me as not being up to their standards	0	1	2	3	4
I am different and inferior to others	0	1	2	3	4
Other people don't understand me	0	1	2	3	4
I am isolated	0	1	2	3	4
Other peope see me as uninteresting	0	1	2	3	4
I am unworthy as a person	0	1	2	3	4
Other people are judgmental and critical of me	0	1	2	3	4
I am judgmental and critical of myself	0	1	2	3	4

Appendix 4E: Participant Debrief

Participant Debrief

We would like to take this opportunity to thank you for taking part in the survey and contributing towards this research project.

The purpose of this study is to look at the links between worry, low mood and stress and not always having access to enough food. We will also look at what people think of themselves and whether people feel judged by others, as a measure of shame. We expect to find that shame makes it more likely that a person will experience emotional distress when not always having enough food.

It is hoped that the information gathered from this study will add to the research showing that wider societal issues need to be thought about in relation to mental health. It may also inform how food aid is provided to people who do not always have access to enough food.

If you wish to receive a summary of the research, please give your email address in the box provided. This will be stored separately to the information you gave in the survey.

We wish you all the best for the future and hope that you have found participating in the research an interesting experience. If you have experienced any distress through taking part in the project, please make contact with one of the organisations below:

- Your doctor (GP)
- The Samaritans helpline 116 123 or website www.samaritans.org

If you wish to receive a summary of the research, please provide an email address. This will be stored separately to the responses you gave in the survey to maintain anonymity.

☐ Yes, I would like to receive a summary of the research

Email address: _____

☐ No, I would not like to receive a summary of the research