INTRODUCTION

Research has consistently shown that social determinants of health (SDH) including employment and migration significantly affect health and wellbeing (Bambra et al., 2009; Marmot, 2010; Kinge, 2016; Fitzsimons et al., 2017). Adverse working conditions can negatively impact health by causing exposure to physical hazards, unhealthy working hours, injury from repetitive actions, exposure to dangerous tasks, sedentary work and unhealthy posture (Banerjee, 2009; Benach et al., 2016). The effects of employment on health could also be indirect and relate to its interaction with other social determinants of health. For example, employment and income influence other determinants such as housing, education and access to care (Bambra et al., 2009; Marmot, 2010) with in-work poverty, defined as earning a salary less than 60% of the median, shown to be strongly associated with part-time employment (Filandri and Struffolino, 2018). Employment is also important in other aspects of human existence; it provides individuals with a sense of purpose and identity as well as influencing and reflecting the peoples' social status (Black, 2008). Therefore, it can be seen that patterns of employment that are low quality (precarious) will be associated with increased negative health outcomes. For example, employment patterns associated with low employee control and job insecurity have been shown to result in adverse mental health outcomes and physical injuries (Canivet et al. 2016; Moscone, Tosetti and Vittadin, 2016; Sidorchuk, 2017).

Such low quality and precarious work has been on the rise since the mid-1970s, especially in developed countries including the United Kingdom (UK) (Quinlan, Mayhew and Bohle, 2001; Matilla-Santander et al., 2018) and is very strongly tied to health inequalities and social justice issues, particularly in at risk groups such as immigrants (Marmot, 2010). Furthermore, the global recession of 2008 had severe effects on the prevalence of precarious employment. There were massive cases of job cuts, reduction in wages and downgrading of quality jobs, increased outsourcing of work to low cost labour markets, and generation of many temporary jobs with short-term contracts (Quinlan and Bohle, 2009; Karanikolos et al. 2013). Due to the crises, workers' bargaining powers were reduced and the feeling of a lack of job security increased therefore increasing precarious employment (Karanikolos et al. 2013). Studies on the prevalence of precarious employment support these assertions. For example, in 2005, the prevalence of precarious employment in the

European Union (EU) was estimated to be 48% (Puig-barrachina et al. 2014), 49% in 2010 during the recession in Spain (Vives et al. 2015) and 67.08% in the EU after the recession (Matilla-Santander et al. 2018).

In the UK, active policy shift towards flexible work has been driven by assertions that flexible employment would provide better work-life balance, more worker empowerment and have positive impact on health (Benach et al., 2014). However, this may not be true for more vulnerable groups. Immigrants may instead experience significant negative health outcomes because they are particularly susceptible to exploitation by employers and to multiple negative health outcomes due to the migration process and difficulties with cultural adjustment (Bambra et al., 2009; Marmot, 2010; Premji, 2018). The UK focus is significant because of the high rates of immigration, for example: data from the Office for National Statistics (ONS) (2017) shows that 6.0 million UK residents are non-British nationals. Furthermore, increasing dependence on migrant labour (Anderson and Ruhs, 2012) and labour regulations that favour more employer control over hiring and firing (Mantouvalou, 2012) mean that more migrants will be employed in precarious settings.

Although reviews have been conducted to examine the effects of flexible working arrangements on health (Joyce et al. 2010; Benach et al., 2014; Theorell et al. 2015; Koranyi et al. 2018), these have either been based on studies conducted before 2008, have not been based on the UK population or have not examined the health effects on immigrants. For example, the review conducted by Joyce et al. (2010) is conceptually different because they studied the health effects of flexible work which by definition is not specific to the dimensions of precariousness. Despite the continued commitment towards addressing health inequalities and the increased interest in social determinants of health (Addison et al., 2018), little is known about the experience of UK migrants in precarious employment.

The mechanisms underpinning the health effects of precarious employment in the UK have not been mapped and this is significant considering the current shift to more integrated approaches to complex public health issues (Newella and Proust, 2012). According to Siokoua, Morgana, and Shiella (2014) understanding such mechanisms may provide important insights into the pressure points where interventions can be targeted for maximum effectiveness. It is therefore timely and important that the evidence base in the UK be synthesized to aid with policy and practice. This paper will fill the gap in knowledge by

addressing the **research questions:** how do migrants in the UK experience precarious employment? Does precarious employment impact on immigrants' health and wellbeing and how?

METHODS

Criteria for study selection

To answer the research question, a systematic review was conducted to identify primary qualitative research describing the experience of migrants working in precarious settings in the UK. Studies had to include data on the health effects of precarious employment as well as workplace experiences to meet the requirements of this review. Studies using only quantitative methods were excluded because these do not provide information on the social context of precarious employment. The search included studies published between January 1, 2008 to April 7, 2019 because the prevalence of the phenomenon being studied significantly increased after the height of the global recession (Quinlan and Bohle, 2009; Karanikolos et al. 2013). The table below contains a summary of inclusion and exclusion criteria with justification for the decisions.

Table 1: Study selection criteria with justification

Inclusion criteria	**Exclusion criteria**	**Justification**
Immigrants: individuals that have travelled to the UK for permanent residence	British nationals, international students and illegal immigrants	Migrants are more vulnerable to negative health outcomes
At least one domain of precarious employment described in the in the Employment Precariousness Scale (EPRES) (Vives et al. 2015)	Non-precarious patterns of employment	These patterns of employment are associated with increased negative health outcomes
Primary qualitative studies	Secondary research or quantitative data	Qualitative data is required to achieve objectives of this review

Peer reviewed articles	Non-peer reviewed articles and grey literature	No resources for grey literature search
Articles published in English	Articles not published in English	Translation services not available
Primary studies published from 2008 till date	Studies published before 2008	Rate of precarious employment increased significantly after the global recession of 2008

Type of participant

Individuals aged above 16 years who experienced at least one dimension of precariousness in the workplace were included. This represented the lower range of average age of employment in the UK (Office for National Statistics, 2019). Participants included individuals who migrated to the UK to take up permanent residence. We excluded studies with participants who were British citizens. Illegal immigrants were excluded because data on their experiences was heavily skewed by fear of being caught (Bloch, 2013). Thus health outcomes were mostly related to fear of being discovered rather than the effects of their employment conditions. International students were also excluded because they do not inherently migrate to the UK for permanent residence.

Type of intervention

Studies were only included if the employment pattern described met at least one of the six domains of precariousness. These included participants who had experienced temporariness, disempowerment, vulnerability, insufficient wages, lack of benefits and who were unable to exercise their rights while employed in any sector of the UK labour market (Vives et al. 2015).

Outcome measure

This review included studies that described outcomes covering aspects of physical health, mental health and general wellbeing. Studies selected were not restricted by the specific health outcomes they described.

Search strategy

The search string used in this review was developed to include synonyms covering the key aims of this review and is simplified below as:

"Precarious employment" AND "health impacts" AND immigrants AND "qualitative studies" AND "United Kingdom".

During development of the search string, synonyms were identified through an iterative process involving review of academic literature, repeated discussions between authors and external review by library staff at Northumbria University to ensure it was comprehensive. Subsequently, seven electronic databases with a focus on social work were systematically searched, namely: Cumulative Index of Nursing and Allied Health Literature (CINAHL), Scopus, Applied social sciences index and abstract (ASSIA), PsycARTICLES, Social care online, International Bibliography of the Social Sciences (IBSS) and Web of Science. Reference lists of relevant studies were also searched to find other studies that met the inclusion criteria. The method used is in keeping with established guidelines for systematic reviews (Centre for Reviews and Dissemination, 2009; Higgins and Green, 2011).

The electronic database search yielded 1904 potentially relevant studies and citation follow-up and hand searching of the reference list of relevant studies did not reveal additional studies not already found from initial database searches. Following database searches, 327 duplicates were identified and deleted using tools in Mendeley reference manager. The titles and abstracts of the remaining 1577 studies were screened based on the stated inclusion and exclusion criteria. 1556 studies were excluded, including 2 other duplicates of studies that were found during the sorting process. This process was checked by a second reviewer to ensure rigor (Centre for Reviews and Dissemination, 2009; Higgins and Green, 2011). Subsequently, the full texts of 21 studies were read and 16 studies were excluded with reasons. The entire process resulted in identification of 5 studies that met the inclusion criteria to be synthesised in this systematic review.

Data extraction

The template used for data extraction of all included studies was adapted from the National Institute for Health and Care Excellence (NICE) (British Psychological Society and Gaskell 2007). Data extraction of primary qualitative research followed an iterative process described by Noyes and Lewin (2011), which involved cycling through formulating the extraction template, extracting the data, interpretation, synthesis and then back to a review of the extraction template. This was to ensure that data relevant to the research question was collected (Thomas and Harden 2008).

Quality assessment of included studies

An adopted version of the Critical Appraisal Skills Programme (CASP) (2018) checklist was used to quality assess included studies. This checklist is accepted as a valid tool for quality assessment and has been effectively employed to assess the risk of bias in other reviews of qualitative studies (Atkins et al. 2008; Joyce et al. 2010). The criteria used included a total of nine questions which were adapted for the purposes of this review. The question on the value of the research was excluded because information on this was not considered relevant to the aims of this study. Where it was unclear if a study had met criteria in the checklist, that specific criterion was not given. Due to the subjective nature of quality assessment and the issue of limited reporting of research process in journal articles, the checklist was not used as criteria to include or exclude studies.

All papers met at least seven out of the nine criteria adopted from the CASP checklist, indicating that they were all of sufficiently good overall quality. The most common limitation identified from included studies was a lack of researcher reflection on their role in the research process including reflections on the potential for bias in the formulation of the study design and any changes that may have been made. Other identified limitations included convenience sampling in one included study (Weishaar, 2008) which was considered to be inappropriate and a lack of description of ethical considerations in another paper (Wright, 2011). In the case of Scott (2017), methods used to collect data were described in a different paper (Scott, Craig and Geddes, 2012) which was reviewed solely for quality appraisal. *Table 2* provides a key for the criteria used and *Table 3* outlines criteria met by the included studies in relation to this key.

Table 2: Key for interpreting quality assessment

Key
1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Was the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?

8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of findings?
10. How valuable is the research?

Data Synthesis

The framework outlined in the Centre for Reviews and Dissemination (2009) at the University of York was used for the narrative synthesis of qualitative data in this review. The data extracted from included studies were reviewed to formulate a preliminary theory. Grouping and clustering of data was then used to formulate themes and subthemes. Visual techniques of idea mapping and concept mapping were used to explore and establish the relationships between included studies and a reflexive approach was used to assess the robustness of the developed synthesis. This involved cyclical restructuring of themes and subthemes until a framework emerged, which comprehensively reflected the data in view of the aims of this review. This process was supported with a discussion of identified themes between review authors. To avoid the risk of bias associated with narrative synthesis (Barnett-Page and Thomas, 2009; Tong et al. 2012), a reflexive approach was used to avoid emphasis on any particular study.

RESULTS

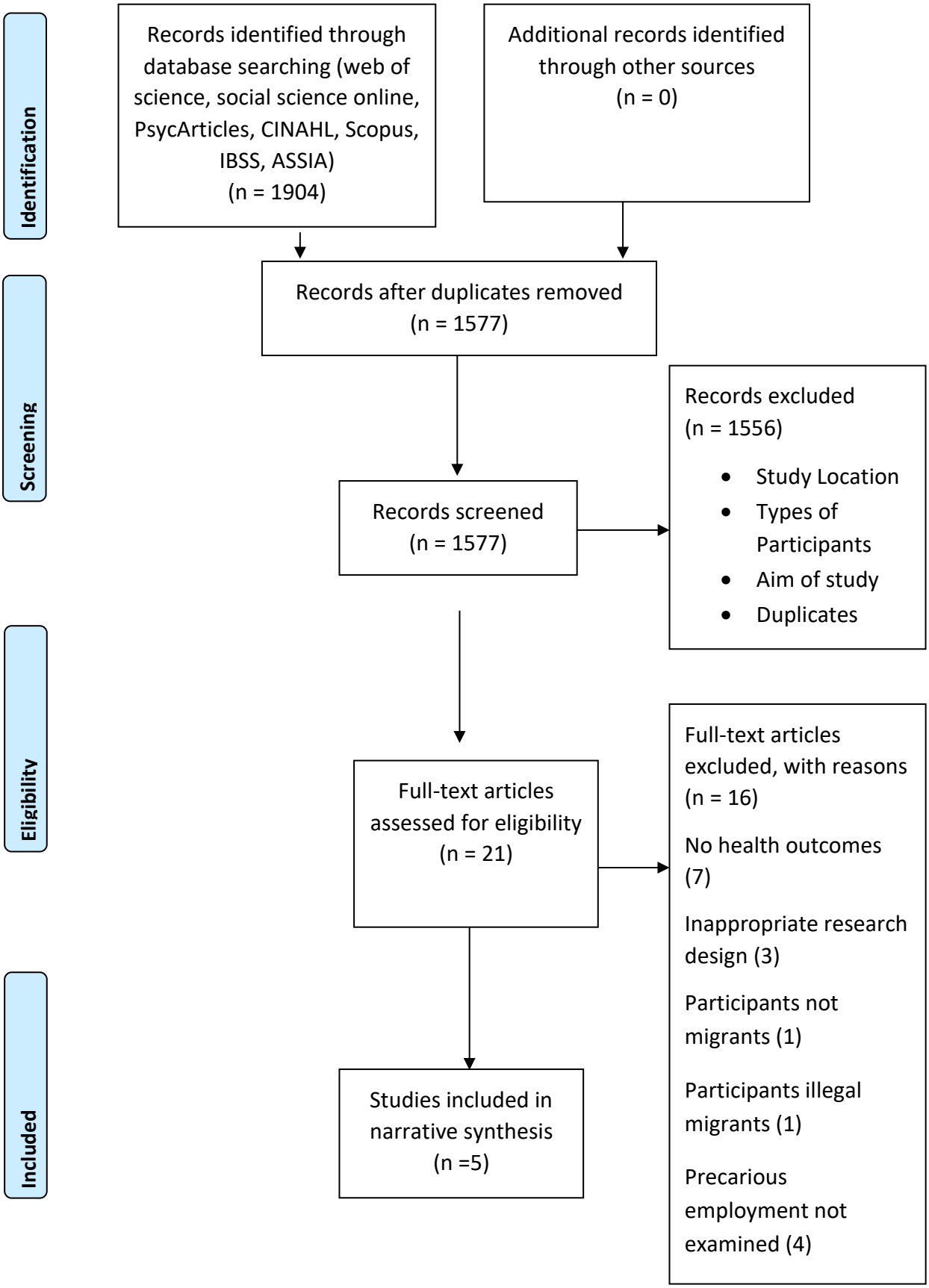

Figure 1: PRISMA flowchart

Characteristics of included studies

Five studies fulfilled the set inclusion criteria in that they used a qualitative study design to collect data on health and wellbeing outcomes of participants who were immigrants in the UK and had experienced precarious work. These included studies represent aggregate qualitative data from 165 participants covering a stated age range of between 17-71 years. Table 6 shows a summary of the specific study characteristics of all included papers.

Of the six dimensions of precariousness, all studies included participants who experienced *temporariness, disempowerment and vulnerability* (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017), three studies included participants who experienced the *wage* dimension of precariousness (Weishaar, 2008; Potter and Hamilton, 2014; Scott, 2017) and two studies included descriptions related to absence of *rights* and inability to *exercise rights* (Potter and Hamilton, 2014; Scott, 2017). Included studies did not specifically present data on the types of work contracts that participants were subject to. However, descriptions of worker's experience in all included studies were suggestive of zero-hour contracts (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017) and two studies included workers who experienced piece-work (Potter and Hamilton, 2014; Scott, 2017).

Two studies were conducted in England (Wright, 2011; Tang and Pilgrim, 2017), one in Northern Ireland (Potter and Hamilton, 2014), one in Scotland (Weishaar, 2008) and one study had participants that were recruited in both England and Scotland (Scott, 2017). The identified nationalities of participants also varied between the selected studies. Tang and Pilgrim (2017) presented data from Chinese participants, Weishaar (2008) sampled Polish participants and Peruvians were recruited in Wright (2011). The two other studies had participants who were A8 and A2 European migrants (Potter and Hamilton, 2014) and individuals from multiple nationalities in Africa, Asia and Europe (Scott, 2017). The study by Tang and Pilgrim (2017) also included 2 participants who were UK born but self-identified as Chinese, however data from these participants were excluded from the data extraction process.

Data synthesis of included studies

In keeping with the aims of this systematic review and based on the data extracted from included studies, themes identified were placed under the broad categories of *health*

outcomes of precarious employment and *factors leading to experienced health outcomes.* These categories were further subdivided into several themes outlined below.

Health outcomes of precarious employment

The health outcomes of precarious employment were identified under the subthemes of its effect on physical health, psychological health and on perceived wellbeing.

Effect on physical health

Migrants described the effects of precarious employment on their physical health as being entirely negative (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017). In all included studies, fatigue and exhaustion were the most commonly reported sequelae of precarious employment. Other physical health problems experienced by migrants included muscle pains described as “back pain” and “leg aches” (Potter and Hamilton, 2014). Physical injuries were also reported as a health outcome, including injuries resulting from physical assault in the workplace (Tang and Pilgrim, 2017) and from the assigned tasks (Potter and Hamilton, 2014). Other experienced health outcomes included development of tunnel vision, weight gain, sleep problems, fever and arrhythmias (Weishaar, 2008).

Table 3: Summary of Included studies

Study citation	Primary aim(s)	Participants, setting, and methods	Findings	Quality appraisal (see key)	Comments
Weishaar, H.B. (2008)	To gain a greater understanding of the personal experiences of Polish migrant workers who work in manual and low-skilled jobs in Scotland, and to explore the experiences of stress and its impact on physical and psychological health and well-being.	**Participants:** Polish migrants n = 15 (M = 6; F = 9) Age range: 17 – 51 years **Location:** Scotland **Sampling:** Convenience sampling and snowball sampling **Data collection:** Interviews (not specified) and focus group discussions **Analysis:** Thematic analysis using Nvivo software	**Health outcomes** (i) Work-related stress. (ii) Physical health issues: fever, headaches, weight gain, increased heart rate, sleep problems, tunnel vision, exhaustion and change in bio-rhythm (iii) Psychological issues: blunted affect, low mood and burnout (iv) improved wellbeing (+) **Mechanisms**: (i) Communication difficulties and unfamiliarity with culture **Sources of work related stress**: (ii) Low wages (iii) High workload (iv) Poor working conditions. (v) Lack of work-life balance (vi) Feeling overqualified	1, 2, 3, 5, 7, 8, 9, 10	Limitations of sampling strategy noted. Study design in keeping with accepted standards

			(vii) Perceived discrimination		
Tang L. and Pilgrim D. (2017).	To provide qualitative evidence from the experience of Chinese service users in the UK to expand the literature on the use of intersectionality analysis in research on the mental health of ethnic minority groups.	**Participants:** Chinese migrants n = 22 (M = 9, F = 13) Age range: <30 - >71 years **Location:** England **Sampling:** Purposeful sampling **Data collection:** In-depth life history interviews **Analysis:** Thematic analysis using constant comparative method	**Health outcomes** (i) Work-related stress. (ii) Physical assault leading to brain damage (iii) Depression, anxiety disorder, schizophrenia, suicide attempt **Mechanisms**: (i) Communication difficulties **Sources of work related stress**: (ii) High workload (iii) Working longer than already agreed hours (iv) Perceived racial discrimination (v) Harsh working conditions (vi) Hostile working environment (vii) Hierarchical workplace leading to bullying and accumulated stress. (viii) Lack of social support from Chinese community	1, 2, 3, 4, 5, 6, 7, 8, 9	Clear audit trail of inquiry with use of appropriate methods

Wright K. (2011)	To examine migrants' own self-assessment of their needs and perceptions of the factors influencing human wellbeing outcomes.	**Participants:** Peruvian migrants n = 49 (M = 32, F = 17) Age range: 15 – 45 years (described for only 37 of the participants) **Location:** England **Sampling:** Purposeful sampling and snowballing techniques **Data Collection:** semi structured interviews **Analysis:** Thematic analysis	**Health outcome** (i) Reduced perceived wellbeing (ii) Feelings of humiliation and depression, frustration and uncertainty (iii) Enhanced perceptual wellbeing (+) **Mechanisms:** (i) Communication difficulties (ii) Qualifications not recognized in the UK (iii) Structural racism (iv) The inability to spend time on things of value (v) Lack of social support (i) Felt empowered to be able to work as a woman in society (+) (ii) Acquisition of new values (+)	1, 2, 3, 4, 5, 6, 8, 9	Good quality study with appropriate design. Answered questions on wellbeing which is an intervention being studied in this review
Scott S. (2017)	Not clearly stated (cannot tell)	**Participants:** Multiple nationalities (Europe, Asia and Africa, A8 and	**Health outcome** (i) Work related stress and tiredness (ii) Feelings of de-humanization (iii) Decreased sense of self worth	4, 5, 6, 9,	Ethical considerations not described

		A2 migrants) n = 62 (M = 35, F = 27) Age range: 21 to 61 years (average 40 years) **Location:** England and Scotland **Sampling:** Purposeful sampling **Data Collection:** in-depth interviews **Analysis:** not described	(iv) Anxiety **Mechanisms:** **Job insecurity** (i) On-call status (ii) Shifts could be cancelled at any time **Work intensification** (iii) Workers are paid per item/piece of work done (iii) Emphasis on speed of work **Worker expendability** (iv) Workers dismissed for being unwell or pregnant **Worker subordination** (v) Workplace bullying (vi) Excessive supervision (vii) Denial of breaks **Employment intermediation** (viii) Unexplained deductions from wages by intermediate agencies (ix) Bribes for shift		

Potter M. and Hamilton J. (2014)	Explores the experiences of migrant workers in the mushroom industry in Northern Ireland	**Participants:** A8 and A2 migrants n = 17 (sex distribution not stated) Age range: not stated **Location:** Northern Ireland **Sampling:** snowball sampling techniques **Data Collection:** semi structured interviews **Analysis:** Grounded theory analysis	**Health outcome:** (i) Work related stress, anxiety and fear (ii) Back pain, aching legs, fatigue and burnout, and physical injuries **Parameters of exploitation** (i) Working below skill level (ii) Poor working conditions with minimal health and safety mechanisms (x) Language barrier (xi) Threats of dismissal (xii) Paid for piece work with inconsistencies and missing wages (xiii) Excessive working hours (xiv) Insufficient shifts (xv) No holiday pay, no sick pay, no overtime pay, no maternity pay (xvi) Unpredictable working patterns **Levels of control** (xvii) Workplace discrimination (xviii) Withholding of information (xix) Exploitative intermediaries	1, 2, 3, 5, 7, 8, 9	Appropriate research design to address the aims of the study.

			(xx) Deception on the nature of work		

Effect on Psychological health

All five studies reviewed showed that migrants working in precarious settings experienced significant psychological distress. Participants in all included studies reported varying degrees of work-related stress (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017) which in some cases progressed to severe psychological illness (Tang and Pilgrim, 2017). Depression and anxiety were major health outcomes reported in all included studies (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017). Tang and Pilgrim (2017), specifically sampled participants who had received a psychiatric diagnoses and included individuals who had attempted suicide and developed schizophrenia as a consequence of precarious employment. These outcomes were not reported in the other included studies. Other outcomes not shared by all studies include feeling of de-humanisation and decreased sense of self-worth (Scott, 2017) as well as blunting of affect, described as indifference to physical appearance and the surroundings (Weishaar, 2008).

Effect on Perceived wellbeing

Only two studies out of the papers included for this review contained results on the perceived wellbeing of migrant workers in precarious settings (Weishaar, 2008; Wright, 2011). In both studies, conflicting results of improved as well as reduced wellbeing were experienced by different participants because perceived wellbeing could not be separated from pre-migration experience and living conditions. In Wright (2011), participants reported improved wellbeing if they had experienced gender discrimination or gender related pressure in their home country while in Weishaar (2008), participants reported improved wellbeing if their income in the UK significantly exceeded that in their home country. In the absence of the above stated factors, the participants in both studies experienced reduction in perceived wellbeing.

Factors influencing experienced health outcomes

In all five studies, migrant workers described various factors and experiences that had an impact on their health and wellbeing. These were examined and categorised into subthemes described below.

Language barrier and communication difficulties

Language barrier was described by participants in all studies as a significant factor that affected their health and wellbeing while working in precarious settings. The effects of communication difficulties were experienced in different ways. Lack of access to information on employment and work related rights was noted in all five studies (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017), lack of defence against maltreatment in three studies (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014) and inability to negotiate wage and working conditions with employers was noted in two studies (Weishaar 2008; Potter and Hamilton, 2014). In two studies, language difficulties were noted to be directly linked to psychological health by causing feelings of being 'dumb and stupid' and not being 'in the right place' (Weishaar 2008) as well as helplessness and powerlessness (Potter and Hamilton, 2014; Scott, 2017),

Intensity of work

Excessive intensity of work was experienced by migrant workers in various ways (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017). Ways in which migrant workers experienced work intensification included working extremely long hours (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017), emphasis on speed of work by employers (Scott, 2017; Tang and Pilgrim, 2017), use of piece-work whereby workers are paid per item/per piece of work done rather than per hour worked and the denial of breaks and holidays (Potter and Hamilton, 2014; Scott, 2017).

Workplace hierarchy and levels of control

The effect of workplace hierarchy was experienced in relation to negative treatment by superiors in the workplace, by customers and by colleagues. Migrant workers experienced workplace bullying (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017), increased reprimands and dismissals (Potter and Hamilton, 2014; Scott, 2017) as well as excessive supervision (Weishaar, 2008; Scott, 2017). Workplace discrimination was experienced as perceived racial discrimination (Wright, 2011) and preferential treatment of UK nationals (Weishaar, 2008; Potter and Hamilton, 2014).

In two of the included studies, migrant workers experienced lack of control due to the influence of intermediaries such as employment and migration agencies (Potter and Hamilton, 2014; Scott, 2017). The agencies exercised control over allocation of shifts and distribution of wages to migrant workers (Potter and Hamilton, 2014; Scott, 2017).

Unsafe working conditions

Migrants working in precarious settings often experienced unsafe working conditions which were unique to the type of work being carried out. In the study conducted by Potter and Hamilton (2014), migrant workers in the mushroom industry experienced unsafe conditions including: poor lighting and lack of personal protection equipment while working with chemicals. Although specific working conditions were not described, in Tang and Pilgrim (2017), migrant workers stated that they had to work under "harsh conditions" and in Weishaar (2008), working conditions were stated as being of poor standard.

Insufficient income

The experience of income related health effect was linked to several employment related factors. First, the jobs that migrants occupied were low wage jobs (Weishaar, 2008; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017), sometimes paying below the minimum wage (Potter and Hamilton, 2014; Scott, 2017). Workers who experienced piece-work were particularly at risk of receiving wages that were below the set minimum wage (Potter and Hamilton, 2014; Scott, 2017). In the study by Potter and Hamilton (2014), one migrant worker described earning £3 per hour for picking small mushrooms. Secondly, workers perceived that they received lower wages, and fewer shifts and contracts than UK nationals for the same amount of work (Weishaar, 2008). Finally the inability to meet their material needs resulted in reduced perceived overall wellbeing (Wright, 2011).

Job insecurity

Job insecurity was experienced in different ways by migrant workers with unpredictability of shifts and working hours being emphasised as a major issue (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017). Migrants were always on standby or on-call status

and could be given shifts on short notice (Potter and Hamilton, 2014; Scott, 2017). Furthermore, migrants could be dismissed from work at any time or have their shifts terminated at any time (Potter and Hamilton, 2014; Scott, 2017).

Nature of work

Health and wellbeing effects of the nature of work were dependent on the individual characteristics of migrant workers. Feelings of frustration and boredom were closely related to their academic qualification levels in relation to the kind of work done; cleaning, picking mushrooms and catering (Weishaar, 2008; Potter and Hamilton, 2014).

DISCUSSION

The unique experiences of migrants in precarious employment can be highlighted by examining the findings of this review in relation to stress theories, the experience of immigration regardless of employment status and the experiences of precarious employment regardless of immigration status. For clarity, studies used in data synthesis of this review are presented in bold.

Stress response theories from wider academic literature can explain the psychological distress experienced by migrant workers in precarious settings (Karasek, 2008; Meyer, Schwartz and Frost, 2008; Jackson et al. 2010; Slavich and Irwin, 2014). These theories state that repeated intermittent stress from external stressors lead to development of psychological disorders. In the case of migrant workers in precarious employment, sources of stress includes insufficient income, language difficulties and unfamiliarity with the culture of host country, high workloads and extensive working hours, hostile and tense working environments, perceived discrimination at the workplace and uncertainty surrounding allocation of shifts **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017)**. Stressors such as insufficient income, high worloads and extensive working hours, job uncertainty and hostile working environments are common to precarious precarious employment in general (Vives et al. 2015; Vives, González and Benach, 2016; Matilla-Santander, 2018), while others like language and acculturation difficulties and perceived discrimination appear to be particular to migrants. Furthermore, major life

changes including a change in culture and location, leaving behind family, friends and partners, and taking up new employment **(Weishaar, 2008; Wright, 2011; Tang and Pilgrim, 2017)** are significant stressors unique to migrants.

Individuals will respond in different ways to these life changes and stressors by displaying varying abilities to cope. Although resilience can usually be built up by increasing social support (Karasek, R. 2008; Meyer, Schwartz and Frost, 2008; Jackson et al. 2010; Slavich and Irwin, 2014), migrants did not receive such support. Language barriers and adjustment difficulties meant that migrants could not easily connect with UK nationals and fellow migrants were perceived as selfish and self-centred **(Wright, 2011; Tang and Pilgrim, 2017)**. This perception was particularly described in polish **(Wright, 2011)** and Chinese **(Tang and Pilgrim, 2017)** communities but it is unclear if the same applies to other ethnic communities. This hindered the development of a social support structure, limiting exchange of possibly helpful information and therefore reducing the ability to handle emerging stressors. The presence of language difficulties and unfamiliarity with societal norms and practices as well as the limited knowledge of regulatory mechanisms of the host country means that migrant workers are especially vulnerable in the workplace. This also means that individual protective factors such as coping and adaptability will be low due to the lack of support mechanisms (Ryan et al. 2008; Ryan, 2011). The fear of dismissal and financial difficulties that migrants experience results in continuation of work despite the of stress and these stressors accumulated over extensive periods ultimately results in a breakdown of health and wellbeing resulting in consequences such as anxiety, depression and suicidal ideation.

The wider research literature on occupational health and safety also support the findings of this review (Fabiano et al. 2008; Underhill and Quinlan, 2010; Smith and DeJoy, 2012; Giraudo et al. 2016; Osterlund et al. 2017; Koranyi et al. 2018). Among these studies, Fabiano et al. (2008) and Giraudo et al. (2016) directly compared injury risk between employment-secure and precarious workers and found that precarious workers experienced injury risk that was significantly higher (136% - 175% and 24 - 57% respectively) than their securely employed peers. Fabiano et al. (2008) examined injury risk in highly hazadous industrial settings and thus presented higher risk percentages. The higher injury risk associated with precarious employment can be explained by considering the inherent

characteristics of precarity and the identified risk factors of occupational injury. These risk factors include job placement mismatch (Underhill and Quinlan, 2010), performance of non-routine task, change in surroundings, use of unsafe equipment (Osterlund et al. 2017), young age, lack of experience in activity, heavy workload and lack of sufficient training (Fabiano et al. 2008).

While comparing the risk factors of occupational injury with the results from this review, several factors can be considered. First, migrants work for excessively long hours due to low wages and the levels of control imposed by employers **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017)**. Secondly, because of the uncertainty of when and where they can work and the threat of dissimissal for those who report injury or take sick leave, migrant workers experince high work intensity for extended periods **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017)**. Thirdly, the use of employment intermediaries as is the case in many precarious settings (Underhill and Rimmer, 2009), means that workers are placed in tasks where there is a mismatch between their abilities and the job requirements. This is because agencies which act as employment intermediaries are under pressure to provide workers or they risk losing a host employer (Underhill and Quinlan, 2010). Finally, the communication barriers experienced by migrants mean that they can find themselves lacking knowledge of safe working practices and health and safety regulations in particular settings. In the case of employers, non-compliance with statutory provisions occurred even when concerns were raised. This coupled with the fear of dismissal and lack of knowledge of soures of help meant that no actions were taken to prevent workplace injury **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017)**.

Although it can be said that injuries associated with precarious employment are not particular to migrants, the culture of regulatory failure by employers and lack of knowledge on health and safetly are arguably experienced differently by migrants due to communication difficulties and differences in power levels **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017)**. The issue of physical assult in the workplace identified in this review is also a result that is unique compared to other occupational health and safety studies (Fabiano et al. 2008; Underhill and Quinlan, 2010; Smith and DeJoy, 2012; Giraudo et al. 2016; Osterlund et al. 2017; Koranyi et al.

2018). This comes into play when considering the vulnerability of migrants as well as the wider social context of the host country. For example, cases of physical assault on migrants may be more likely in societies where the perception around immigrants is largely hostile (McKeever, Riffe and Carpentier, 2012).

While negative health outcomes have been extensively reported in research literature, evidence of experienced positive effects on health and wellbeing were found in the reviewed studies **(Weishaar, 2008; Wright, 2011)**. One explanation for this finding is the effect of pre-migration experiences on the post-migration perception of wellbeing. For example, the synthesis presented as part of this dissertation found that women who were subject to gender discrimination in their home countries were happy to be able to work and contribute financially to the household **(Weishaar, 2008; Wright, 2011)**. Another possible explanation is that migrants who are better adjusted will be less stressed and have a higher perception of their wellbeing. Thus the perception of improved wellbeing may be experienced relatively in relation to pre-migration experience and the perceived stress levels of less well-adjusted migrants.

The inherent characteristics of precarious employment demonstrated in the six dimensions (Vives et al. 2015) are largely responsible for the health outcomes outlined in this review. However, it is also important to discuss the effects of extrinsic factors not related to the workplace. These factors relate to the social and policy context of migration, which have significant influence on migrants' health and wellbeing (Ryan, 2011).

Influence of extrinsic factors

Firstly, migration is an inherently stressful process and the various stressors experienced by migrants before and during migration influences their health outcomes through direct or indirect means (Li, Liddell and Nickerson, 2016; Steel et al. 2017). An example of this is the case of migrants who experienced gender-based discrimination in their home countries or who were subject to anti-social life choices due to their economic and social position in their home countries **(Weishaar, 2008; Wright, 2011)**. For these migrants, the ability to work and earn income in a more tolerant social setting alone was enough for them to perceive an increase in their psychological wellbeing. Female migrants were glad to be able to work in

their host country and be able to contribute economically to their household while individuals who had engaged in criminal activities due to economic hardships in their home countries were happy to be able to adopt new moral values. Consequently, migrants who had higher social status in their home countries, the 'highly skilled migrants', experienced significantly worse psychological distress including feelings of humiliation, frustration, depression, dehumanisation and apathy because they were overqualified for the jobs they were doing due to non-recognition of their skills **(Wright, 2011)**. This phenomenon can also be explained when considering that employment is not simply a means of ensuring material wellbeing but is also important in providing individuals with a sense of purpose and identity (Black, 2008).

The demands and expectations placed on migrants also influence their health outcomes. Migrants are often under pressure to send financial resources back to dependents in their home countries (Humphries, Brugha and McGee, 2009). They may also experience pressure due to the expectations of success placed on them by culture, dependents and societal perceptions (Nowicka, 2013). These demands are culturally mediated, mediated by dependents, or mediated by gender roles. These external pressures may thus lead to an overburdening of the psychological adaptive capacity of migrants (Jackson et al. 2010; Slavich and Irwin, 2014) leaving them more exposed to negative psychological health outcomes. They also contribute to the felling of isolation and entrapment that heightens stress experienced in the labour market **(Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017)**.

The influence of wider policies, legislation and regulation as well as labour market forces and the welfare state are important points to consider in the causation of precarious employment in the migrant sub-population (Benach et al., 2014; Griffith and Tengnah, 2014). These factors may be responsible for creating the current climate that has led to a culture of exploitation and precarity, which mostly affects the vulnerable migrant group. An in-depth discussion of how these contribute to the prevalence of precarious employment and the isolation of migrants in the workplace is beyond the scope of this review. However, it is important to note that laws centred on the immigration of skilled workers without provisions for processes to recognise their qualifications, systems that allow the recruitment of workers via intermediaries without adequate protection of rights, policies that give no

benefits to migrants and welfare state regimes that make it more attractive for nationals to be unemployed than to work in low wage jobs are factors that lead to the creation of a 'hostile environment' (Global Justice Now, 2018) and promote the current culture.

Strengths and Limitations of this review

To the best of our knowledge, this is the first systematic review that has explored the health effects of precarious employment in the vulnerable migrant sub-population of the UK. It thus provides an important synthesis of qualitative evidence of the experience of UK migrant workers in precarious work settings. The review also provides insights into the mechanism through which the health outcomes identified are experienced by migrant workers. A transparent and systematic process ensured that the review maintained a clear audit trail and adopted a reflexive approach to ensure that data is represented with minimal bias (Higgins and Green, 2011; Gurevitch et al. 2018). The presentation of positive health outcomes extracted from the included studies provides a unique perspective on the subject and opens up the discussion into the extrinsic factors that influence migrant workers' health and wellbeing. This review thus provides unique perspectives that are important for policy and practice.

Being a systematic review, this paper is also subject to the disadvantages associated with the research design and is thus not without limitations. First, due to the limited number of included studies, the findings from data extraction may not cover all possible health outcomes. Secondly, the probability of publication bias is high because included studies were limited to peer-reviewed papers which may have resulted in the exclusion of relevant grey literature (Higgins and Green, 2011). It is also noted that some studies were represented more in the data synthesis section of this dissertation due to the differences in the richness of the data of individual studies. Finally due to the exclusion of studies conducted outside the UK, the generalisability of our findings is limited.

CONCLUSION

Workplace related factors that influence the experienced health and wellbeing outcomes of migrants employed in precarious settings did not exhibit their influence in isolation, but

formed an environment of interrelated factors that cumulatively affected migrants' health and wellbeing. The findings from this review suggest that interventions aimed at helping migrants integrate into the host countries may lead to improved health outcomes. Integration in this case is considered with respect to putting in place mechanisms and processes that allow for recognition of migrants' skills. It also represents interventions aimed at resolving the problems associated with acculturation and language difficulties. Language classes for migrants may improve health and wellbeing outcomes because communication difficulties were identified as a major source of stress and was seen to mediate other factors causing negative outcomes (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017).

Interventions that increase the power of employees may also result in improved health and wellbeing because the threat of dismissal and use of zero-hour arrangements was used to foster a culture of exploitation (Weishaar, 2008; Wright, 2011; Potter and Hamilton, 2014; Scott, 2017; Tang and Pilgrim, 2017). Thus interventions should focus on reducing the power imbalance between employers and employees. These interventions may need to occur at the national policy level to provide more protection from risks of precarious employment. A significant contribution of this review is in highlighting the influence of the migration experience and the general social discourse surrounding immigration. Therefore community participation which has been shown to have an effect on social issues (Singh et al. 2017) should be used help in bridging the gap between migrants and British citizens.

Further research should be carried out to understand the political and legal factors that contribute to the culture of exploitation in employment. Although these are identified as contributing factors, their exact effects on migrants' experiences are not well understood. The pathways of causation linking these political and legal factors to health outcomes are also not fully understood. Such studies may focus on the effects of migration and precarious employment on health inequalities. A larger systematic review including international literature as well as empirical research in this area should also be conducted and a focus on effective intervention measures targeted at this particular group should be considered.

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