Social Science & Medicine 343 (2024) 116542

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

How, when, and why is social class linked to mental health and wellbeing? A systematic meta-review

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ARTICLE INFO

Handling Editor: Blair T. Johnson

Keywords:
Social class
Socioeconomic status
Social status
Mental health
Wellbeing
Meta-review

ABSTRACT

Rationale: Meta-reviews synthesising research on social class and mental health and wellbeing are currently limited and focused on specific facets of social class (e.g., social capital) or mental health and wellbeing (e.g., mental health disorders), and none sought to identify mechanisms in this relationship.
Objectives: The present meta-review sought to (1) assess the overall relationship between social class and mental health and wellbeing, (2) determine the mechanisms that act in this relationship, and (3) evaluate the strength of evidence available.
Methods: The protocol was prospectively registered on PROSPERO (CRD42021214731). We systematically searched twelve databases in September 2022 and identified 149 eligible reviews from 38,257 records screened. Quality of evidence was assessed with the JBI levels of evidence and risk of bias with the ROBIS tool.
Results: A large but low-quality evidence base points to class-based inequalities in mental health and wellbeing, with the strongest available evidence linking lower social positions to an increased risk of depression. In terms of different facets of stratification, the best available evidence suggests that deprivation (e.g., poverty), socioeconomic status, income, and subjective social status are consequential for individuals' mental health and wellbeing. However, high-quality evidence for the roles of education, occupation, other economic resources (e.g., wealth), and social capital is currently limited. Most reviews employed individual-level measures (e.g., income), as opposed to interpersonal- (e.g., social capital) or community-level (e.g., neighbourhood deprivation) measures. Considering mechanisms, we found some evidence for mediation via subjective social status, sense of control, and experiences of stress and trauma. There was also some evidence that higher socioeconomic status can provide a buffer for neighbourhood deprivation, lower social capital, and lower subjective social status.
Conclusions: Future research employing experimental or quasi-experimental methods, and systematic reviews with a low risk of bias, are necessary to advance this area of research.

Mental health conditions are one of the largest causes of disability worldwide, accounting for 19% of all years lived with disability, and are projected to cost the global economy $6 trillion by 2030 (Rehm and Shield, 2019; The Lancet Global Health, 2020). It is widely assumed that the prevalence of mental health conditions follows a gradient that reflects people's social position in stratified societies, with 'social determinants' of mental health featuring prominently in global public health policy (Allen et al., 2014). Despite decades of research on this topic, the quality of evidence supporting the link between social class and mental health and wellbeing remains unclear. In looking to summarise the large body of work, a small number of meta-reviews have been published in this area. However, previous meta-reviews have either explored specific aspects of social class (e.g., social capital; Ehsan et al., 2019) or mental health and wellbeing (e.g., mental health disorders; Lund et al., 2018), or have not differentiated social positions and other social determinants (e.g., demographic, environmental, or social and cultural determinants; Lund et al., 2018; Shah et al., 2021). A meta-review employing a broader perspective on social class and mental health and wellbeing is essential to fully understand *how* social class may be linked to mental health and wellbeing. Further, no meta-review to date has aimed to identify moderators and mediators in the relationship between social class and mental health and wellbeing. Identifying *when* (moderation) and *why* (mediation) such a link occurs is an essential step to devise effective strategies and policies to reduce inequalities.

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https://doi.org/10.1016/j.socscimed.2023.116542
Received 27 March 2023; Received in revised form 30 November 2023; Accepted 20 December 2023
Available online 25 December 2023

Interventions targeting mechanisms are critically important considering that social class is resistant to change. Finally, there is a need to evaluate the quality of existing evidence to determine uncertainties in this burgeoning literature and inform priority areas for future research.

Previous reviews have explored aspects such as income and education as dimensions of social class that may contribute to inequalities in mental health and wellbeing (Chang-Quan et al., 2010; Tay et al., 2018). Less commonly, research has explored factors such as social capital (Alvarez et al., 2017), food insecurity (Bruening et al., 2017), subjective social status (Euteneuer, 2014), and neighbourhood deprivation (Visser et al., 2021). All of these are markers of one's social position and factors that underpin class-based inequalities. However, social class is a complex construct that cannot be reduced to any one factor. Instead, social class is characterised by economic, social, and cultural capital (Bourdieu, 1986). Economic capital denotes standing in terms of the material assets someone possesses. This includes income, wealth, property and land ownership, and stocks or shares. Social capital includes the social networks available to a person, and the number and status of the people in those networks. Cultural capital includes knowledge of, and participation in, cultural practices that give individuals a social advantage and promote upward mobility. In the current work, we examine different facets of social stratification (e.g., education, income, occupation, etc.) that confer economic, social, and cultural capital, and that collectively underpin social class. Looking at social class broadly in this way allows us to explore the variety of ways in which social gradients in mental health and wellbeing have been examined in the literature, and the variety of mechanisms that might play a role (Pinxten and Lievens, 2014). This affords a more comprehensive assessment of the quality of evidence available and allows us to identify areas of uncertainty.

Like social class, mental health and wellbeing have been examined in a variety of ways. This includes subjective assessments of mood and life satisfaction (Bai et al., 2020; Barnett et al., 2018) and objective assessments such as occupational absenteeism and access to treatment (Dorner and Mittendorfer-Rutz, 2017). In the current work, our definition of mental health and wellbeing is deliberately broad to capture both hedonic and eudaimonic components (see McMahan and Estes, 2011). Hedonic wellbeing emphasises the experience of pleasure and includes measures related to emotional wellbeing. Eudaimonic wellbeing, on the other hand, emphasises the experience of meaning and includes measures of fulfilment, purpose, and meaning in life. Previous research suggests that socioeconomic status is associated with eudaimonic components of wellbeing (Ryff et al., 2021). Thus, a meta-review encompassing hedonic and eudaimonic dimensions of mental health and wellbeing is needed to gain a full understanding of social class-based inequalities, thereby also identifying knowledge gaps and priority areas for future research.

A meta-review, also known as an overview of reviews or an umbrella review, is a systematic review of reviews. In this way, the primary unit of analysis in meta-reviews are reviews, rather than primary studies. Meta-reviews have been developed to handle the increasing volume of reviews and the difficulty associated with trying to summarise a vast body of work (Aromartis et al., 2020). However, despite the challenge of large literature, it is important that meta-reviews include different types of reviews to reduce the risk of "cherry picking" findings and undermining the systematic methodology of the review (Hennessy et al., 2019). Meta-reviews serve an important purpose in providing an overall assessment of the strongest evidence and aim to compare and contrast findings in an area of research (Becker and Oxman, 2008; Hennessy et al., 2019). Further, meta-reviews are an important tool to identify gaps and the most pertinent questions from the review literature (Johnson and Hennessy, 2019). Importantly, while systematic reviews typically have a relatively narrow focus, meta-reviews can shed light onto a broader areas of research (Paré and Kitsiou, 2017). As a result, this methodology lends itself well to the current investigation, which aims to provide a comprehensive overview of the relationship between different manifestations of social class and mental health and wellbeing, from the large number of reviews in this area.

In the current meta-review, we employed the socioecological model of health as a framework, which captures individual, interpersonal, community, and societal determinants of health (Bronfenbrenner, 1977; Golden and Wendel, 2020). This model is pertinent for the present discussion because social class could determine mental health and wellbeing from various levels within society, and relevant mechanisms can act at different (or multiple) levels (see also Manstead et al., 2020). For example, social class might determine mental health and wellbeing at the individual level via income and education, at the interpersonal level via social capital, and at the community level via neighbourhood deprivation (see Fig. 1). Different forms of capital, at different levels, may combine and interact in ways that are consequential for individuals' mental health and wellbeing. For example, having a high income may provide a buffer against an otherwise negative effect of neighbourhood deprivation (Stafford and Marmot, 2003). On the other hand, one's income also determines one's place of living, which in turn may impact mental health and wellbeing (Liu et al., 2019). One aim of the present meta-review was to shed light onto the ways different factors associated with social class can come together to contribute to disparities in mental health and wellbeing, and to provide an assessment of the quality of evidence available.

In sum, this meta-review seeks to (1) assess the overall relationship between social class stemming from economic, social, and cultural capital, and mental health and wellbeing, (2) determine the mechanisms that act in this relationship, and (3) evaluate the strength of evidence to

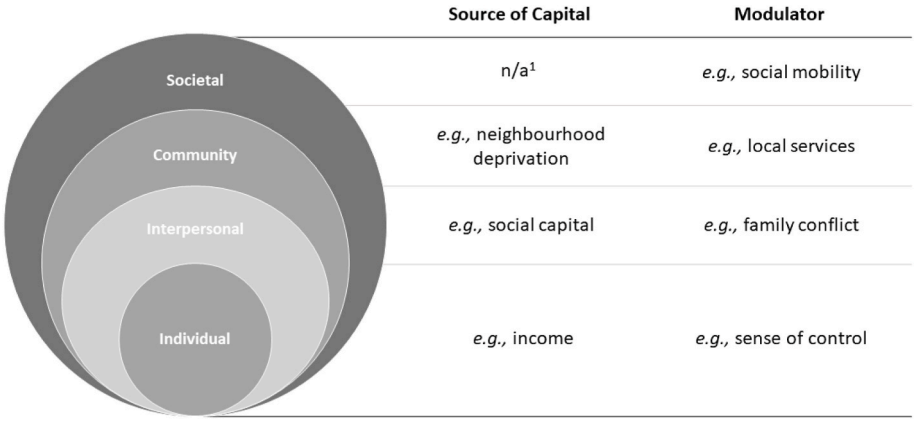

Fig. 1. Socioecological framework applied to the present work
NB: [1]The present meta-review excludes societal- or population-level sources of capital (e.g., measures of GDP), given that social class pertains to stratification within societies. However, the meta-review also considers societal- or population-level modulators.

identify gaps and uncertainties in the literature and inform priority areas for future research. Evaluating the evidence in this way is an essential step so, as a society, we can devise effective strategies and policies to counter social gradients in mental health and wellbeing.

1. Method

In what follows, *review* refers to each article included in the current meta-review. *Primary study* refers to an empirical research study that was included in a review. This systematic meta-review is reported in line with PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher et al., 2009).

1.1. Protocol registration

The protocol for this meta-review was registered prospectively on PROSPERO: CRD42021214731.

1.2. Eligibility criteria

To be included in the current meta-review, reviews had to meet the following criteria: (1) must review previous research, including but not limited to meta-analyses, systematic reviews, scoping reviews, literature reviews, narrative reviews, and rapid reviews; (2) includes participants of any age and gender belonging to the general (non-clinical) population; (3) includes an element of mental health and wellbeing that is primarily affective in nature, including affective disorders and their symptoms (e.g., depression or depressive symptoms), and more general mental health outcomes such as psychological health, quality of life, subjective wellbeing, and life satisfaction; (4) examines at least one facet of stratification, including socioeconomic status, income, education, occupation, social capital (in terms of the social networks available to a person) and cultural capital (knowledge and familiarity with the cultural practices of the dominant culture); (5) published in English; and (6) published since 1990, as there were very few research syntheses published before this time (Chalmers et al., 2002; Starr et al., 2009). The inclusion criteria were not restricted by geographic location or peer-review status.

The exclusion criteria were as follows: (1) review does not provide an adequate summary of the literature or is primarily based on opinion; (2) participants from clinical samples including psychiatric care, and those with a chronic condition or long-term disability; and (3) exclusive focus on *physical* health and wellbeing, or mental illnesses that are not primarily affective in nature (e.g., schizophrenia, psychosis).

Considering our inclusion and exclusion criteria, reviews were excluded if they exclusively explored refugee or migrant populations as these experiences were deemed to introduce potential confounds. We also excluded reviews that focused on specific events such as COVID-19, natural disasters, and economic recessions as we were not confident that findings from these reviews would be generalisable. Reviews were excluded if measures of mental health and wellbeing could not be separated from measures of physical health, and likewise, if measures of social position could not be separated from other demographic characteristics (e.g., race, gender, urbanicity). Finally, reviews were excluded if they explored income inequality (e.g., GINI coefficients) as opposed to social class, or if they measured social class at a population level (e.g., measures of GDP).

1.3. Search strategy

The following databases were searched: (1) PsycArticles, (2) PsycInfo, (3) OpenGrey, (4) ProQuest Dissertations and Theses, (5) PubMed, (6) Scopus, (7) Web of Science Core Collection, and (8) MEDLINE. In addition, we also searched systematic review-specific repositories, including (9) JBI Evidence Synthesis, (10) the Cochrane Database of Systematic Reviews, (11) the Database of Abstracts of Reviews of Effects (DARE), and (12) Campbell Systematic Reviews. Search results were restricted to 1990 to present. Searches were initially conducted between February and March 2021, and subsequently updated in September 2022. Search terms were related to three concepts: (1) social class (*social class, socioeconomic status, SES, social status, social standing, social position, social hierarchy, social rank, education, occupation, income, wealth, index of multiple deprivation, poverty, deprivation, social capital, cultural capital*); (2) mental health and wellbeing (*psychological wellbeing, mental wellbeing, subjective wellbeing, mental health, mental illness, mental disorder, eudaimonic, eudemonic, hedonic, happiness, life satisfaction, quality of life, positive affect, negative affect, stress, life fulfilment, life purpose, authenticity, anxiety, depression, mood disorder, affective disorder*); and (3) review (*meta-analysis, systematic review, literature review, review of the literature, scoping review, narrative review, rapid review*). All searches were tailored to each specific database. See Search Strategy Table S1 in Supplementary Materials for further details. In addition to database searching, we also conducted hand searching of reference lists and forward searching the citations of key papers via Google Scholar.

1.4. Selection process

Database searching initially resulted in 63,387 articles. Duplicate results ($n = 25{,}130$) were removed using the Bramer method in EndNote (Bramer et al., 2016). This resulted in 38,257 articles to be screened using the title and abstract. This process was conducted by one researcher (ID). The full texts of 456 potentially relevant articles were then independently screened by two researchers (ID and MV or JW). The researchers established an inter-rater reliability of 91% (Krippendorff's alpha = 0.82). Researchers discussed any disagreements, and a third researcher (MW) was consulted where necessary. Discussion continued until full agreement was reached among researchers.

1.5. Data extraction

Data was extracted from the final set of retained articles ($n = 149$) by one researcher (ID). A second researcher (JW) independently verified data from 30 (20%) of the articles. The data extracted included authors, date of publication, type of review, databases searched, dates searched, languages included, number of primary studies included, primary study methodology, participant demographics including geographic location, social class measures used, mental health and wellbeing measures used, details of any meta-analyses, key findings, and (if available) mediator and moderator variables. When an article included outcomes or primary studies that were not relevant to the current meta-review, only the relevant information was recorded. Further, data were only extracted from the review itself and any accompanying supplementary materials; no data were extracted from primary sources.

1.6. Assessing quality and risk of bias

We broadly assessed quality of evidence using a hierarchy of evidence as suggested by Joanna Briggs Institute (JBI; Joanna Briggs Institute, 2013). JBI indicates levels of evidence as follows: level 1 – experimental designs including randomised and quasi-randomised controlled trials; level 2 – quasi-experimental designs; level 3 – observational analytical studies including cohort studies with control groups and observational studies without control groups; level 4 – observational descriptive studies including cross-sectional studies; and level 5 – expert opinion including bench research and expert consensus. To provide a broad indication of the strength of evidence provided by each review, we assessed levels of evidence of each primary study, where possible, and then created an aggregate score and divided by the number of relevant studies. This was then rounded to the nearest whole number.

For systematic reviews ($n = 79$), we also assessed risk of bias using the Risk of Bias in Systematic Reviews tool (ROBIS; Whiting et al., 2016). ROBIS assesses four domains through which bias may be introduced into

a systematic review: (1) eligibility criteria; (2) identification and selection; (3) data collection and appraisal; and (4) synthesis and findings. Assessment using ROBIS was conducted by one researcher (ID), with a second researcher (JW) independently verifying 16 (20%) articles.

1.7. Data synthesis

Given the heterogeneity of included reviews in terms of conceptualisations, methods, and outcome measures, a meta-analysis was not planned nor conducted. Instead, the included reviews were narratively synthesised.

2. Results

In this section, we first set out the search results and review characteristics, before describing the dimensions of social class and mental health and wellbeing included by reviews. In the two sections that follow, we look only at systematic reviews and meta-analyses and explore whether the evidence suggests a relationship between social stratification and mental health and wellbeing, and the evidence for mechanisms acting in this relationship. At the end of these sections, we highlight the systematic reviews or meta-analyses with the most robust evidence. In the final section, we briefly discuss findings from literature reviews, scoping reviews, narrative reviews, and other non-systematic types of reviews.

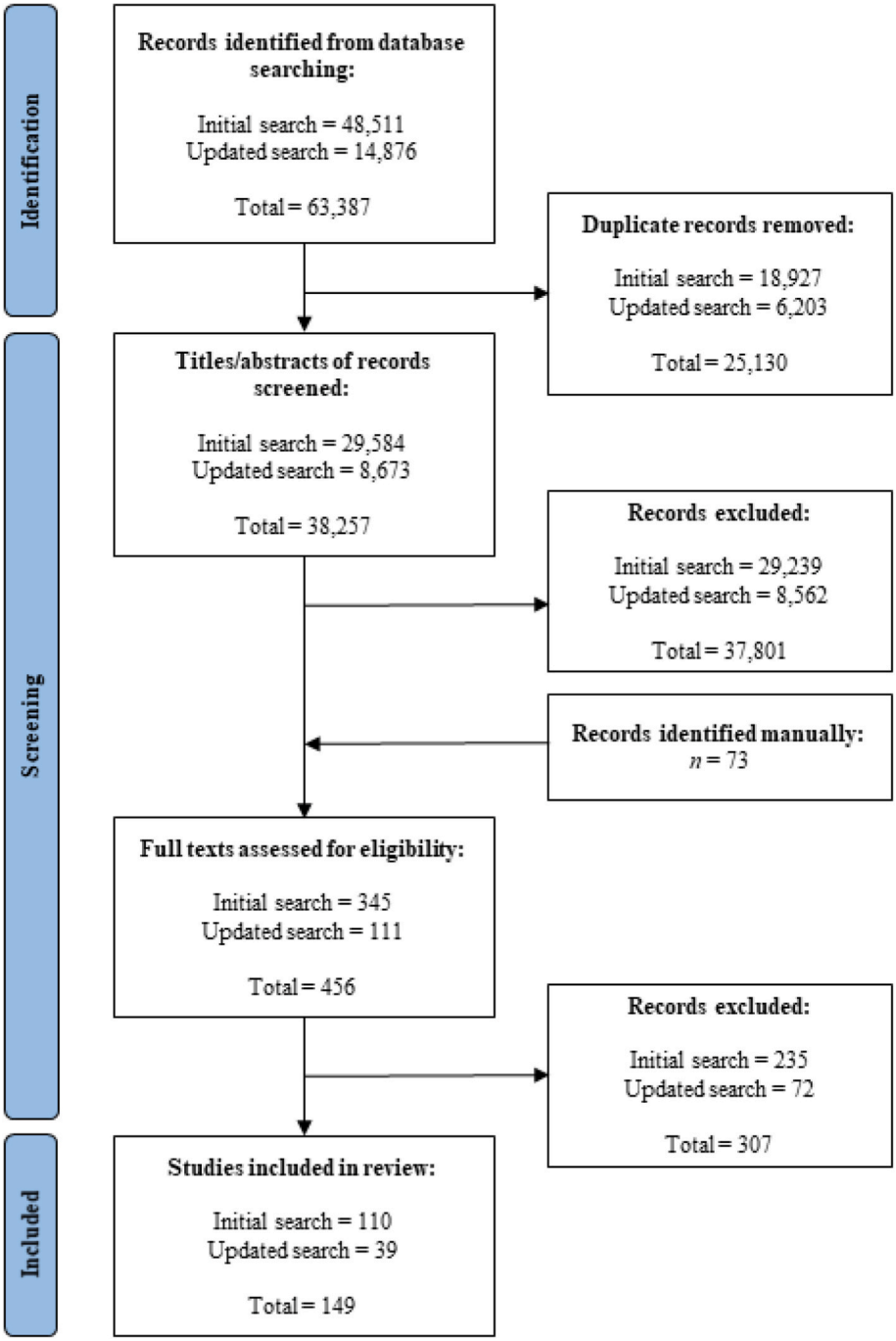

Fig. 2. Flowchart diagram of the screening and selection process.

2.1. Search results

A total of 63,387 citations were retrieved from 12 databases. Duplicate citations were removed and as a result, 38,257 citations were included in the title and abstract screening. This identified 456 reviews for full text screening, of which 149 reviews met the inclusion criteria. Fig. 2 illustrates the selection process.

2.2. Review characteristics

In total, 149 reviews were included in the current meta-review. More than half of the reviews were conducted systematically, such as systematic reviews, systematic narrative reviews, and systematic reviews and meta-analyses (n = 79; 53.0%). In what follows, we describe the characteristics of the included reviews, summarised in Table 1.

Considering populations, High-Income Countries (HIC; as defined by The World Bank, 2023) were studied most (n = 65; 43.6%), and often included the USA, UK, and Australia. Low- and Middle-Income Countries (LMICs) were included in far fewer reviews (n = 26; 17.4%), and often included China. Reviews most commonly only included papers written in English (n = 65; 43.6%). Reviews often studied adults (n = 56; 37.6%), with around half looking only at older adults typically aged 60 and above (n = 27; 18.1%). Children and adolescents were included in 37 reviews (24.8%), and just 17 reviews (11.4%) included both children and adults. It should be noted that a sizeable proportion of reviews did not report population details such as geographic area (n = 33; 22.1%), languages included (n = 49; 32.9%), and age (n = 39; 26.2%). See Supplementary Materials Tables S2 and S3 for complete details of review characteristics and findings.

Table 1
Characteristics of included reviews.

	No. included reviews	%
Review Type		
Literature	25	16.8
Meta-analysis	14	9.4
Narrative	5	3.4
Scoping	10	6.7
Systematic	65	43.6
Systematic narrative	3	2.0
Systematic review and meta-analysis	11	7.4
Other	16	10.7
Population		
High-Income Countries (HIC)	65	43.6
HIC and Low- and Middle-Income Countries (LMIC)	25	16.8
LMIC	26	17.4
Not specified[a]	33	22.1
Languages		
English only	65	43.6
More than one language (including English)	26	17.4
No restrictions	9	6.0
Not specified[a]	49	32.9
No. Databases searched		
1 to 5	84	56.4
6 to 10	34	22.8
10 and above	1	0.7
Not specified[a]	30	20.1
Level of Evidence		
Level 1	0	0
Level 2	2	1.3
Level 3	25	16.8
Level 4	53	35.6
Level 5	36	24.2
Unknown[a]	33	22.1
ROBIS Assessment		
Low	45	30.2
High	34	22.8
N/A[b]	70	50.0

Note.
[a] Non-systematic reviews do not commonly report details of the population, languages, number of databases searched, and details of primary studies (which would be used to determine level of evidence). This explains the relatively high proportions of "not specified" and "unknown" reported above.
[b] Only systematic reviews and meta-analyses were assessed using ROBIS, other types of review have been coded as "N/A".

All reviews included quantitative methods, with a minority also including qualitative methods (n = 9; 6.0%). It should be noted that for many reviews, inclusion criteria implied that quantitative methods were required (e.g., large minimum sample sizes, reporting of particular statistics); however, this was rarely accompanied by the explicit exclusion of qualitative work, or an acknowledgement of this. Most reviews included a combination of primary study designs, with the most common being cross-sectional, longitudinal, and cohort studies. Considering levels of evidence, reviews synthesised evidence from primary studies most-commonly classed as JBI level 4 (n = 53; 35.6%). Considering systematic reviews (n = 79), similar proportions were rated low risk of bias (n = 45; 57.0%) and high risk of bias (n = 34; 43.0%).

2.3. Dimensions of social class and mental health and wellbeing

2.3.1. Social class

The reviews examined eight facets of stratification: income (e.g., household income; income-to-needs ratio), deprivation (e.g., poverty; financial stress), other economic resources (e.g., wealth; family affluence), education (e.g., level of education, parental education), occupation (e.g., employment; occupational status), socioeconomic status (summary index; often derived from a combination of education and income), subjective social status, and social capital. Four reviews did not specify how social class was operationalised, and two reviews examined social class using a combination of ownership of productive assets, control/authority, and skill/experience. We subsumed the latter reviews into an 'other' category. As shown in Table 2, deprivation (n = 64) and education (n = 59) were the most common facets, whereas subjective social status (n = 12) and other (n = 6) were the least common facets. Approximately half of the reviews examined only one facet of social stratification (n = 74; 49.3%), while the remaining reviews examined anywhere between two (n = 27; 18.1%) and eight (n = 1; 0.7%) facets.

As detailed in Tables S3 and S4, in the majority of reviews we were unable to determine whether the measures of stratification used by primary studies were objective or subjective (n = 81; 54.4%). Of those that could be determined, the majority used objective measures (n = 47; 31.5%), such as income, education, and occupation. A small number of reviews employed subjective measures of stratification (n = 8; 5.4%); commonly a measure of subjective social status. A small number of reviews included both objective and subjective measures (n = 13; 8.7%). Notably, although we could not deduce this from reviews, it is assumed that the vast majority of reviews will have used self-report measures of stratification, regardless of whether measures were objective or subjective.

When considering the socioecological level of measures used, most reviews included an individual-level measure of stratification (n = 84; 56.4%). This includes measures such as income, education, occupation, socioeconomic status, family affluence, wealth, and food insecurity. Five reviews (3.4%) used an interpersonal measure, namely social capital. Ten reviews (6.7%) used community-level measures, most commonly neighbourhood socioeconomic status or deprivation. Fifteen reviews included a combination of levels, such as individual and community (n = 7; 4.7%), interpersonal and community (n = 7; 4.7%), and all three levels (n = 1; 0.7%). We could not determine the socioecological level from a considerable proportion of reviews (n = 35; 23.5%).

2.3.2. Mental health and wellbeing

There was a common focus on hedonic measures of mental health and wellbeing that emphasise the experience of pleasure, and measure aspects of emotional wellbeing (n = 101, 67.7%; see McMahan and Estes, 2011). This was driven by a focus on depression; around half of reviews included depression as a measure of mental health and

Table 2
Correspondence table for different facets of stratification.

	1	2	3	4	5	6	7	8	9
1. Income	(53)	22	16	41	32	17	7	5	6
2. Deprivation		(64)	9	20	19	19	5	6	4
3. Economic resources (other)			(24)	16	13	4	6	3	2
4. Education				(59)	38	23	6	4	6
5. Occupation					(45)	20	4	4	6
6. Socioeconomic status						(51)	4	4	4
7. Subjective social status							(12)	3	0
8. Social capital								(17)	0
9. Other									(6)

Note. Figures denote number of reviews (out of 149). Figures in brackets denote the total number of reviews for a given facet of stratification. All other figures show co-occurrences; that is, the number of times two facets of stratification were reviewed together. See text for representative examples of how the facets were measured.

wellbeing – the most common measure by a significant margin. Conversely, there were very few reviews that focused solely on eudaimonic wellbeing, which emphasises the experience of meaning and uses measures such as meaning in life, fulfilment, and purpose ($n = 2$; 1.2%). A number of reviews ($n = 33$; 22.1%) included facets of mental health and wellbeing that encompass both eudaimonic and hedonic components (e.g., life satisfaction, subjective wellbeing, or quality of life). Aside from depression, other common measures included anxiety, life satisfaction, happiness, quality of life, subjective wellbeing, psychological distress, and stress.

The vast majority of reviews employed subjective measures of mental health and wellbeing ($n = 123$; 82.6%), and just two reviews employed both subjective and objective measures. This is consistent with common methods used to diagnose mental health conditions. Subjective measures were often validated tools used to capture mental health conditions such as anxiety and depression (e.g., GHQ-12: General Health Questionnaire, and CES-D: Center for Epidemiologic Studies Depression Scale). Reviews that included objective measures of mental health and wellbeing evaluated antidepressant treatment and health service utilisation in the general population. We were unable to determine whether measures of mental health and wellbeing were objective or subjective in 24 (16.1%) reviews. In terms of socioecological levels, all reviews employed measures of mental health and wellbeing at the individual level. Finally, considering the nature of mental health and wellbeing, although we could not deduce this from reviews, it is assumed that the vast majority of reviews will have used self-report measures of mental health and wellbeing, regardless of subjectivity or objectivity, or socioecological level.

2.4. Does social class impact mental health and wellbeing?

In what follows, we report findings for systematic reviews and meta-analyses. We briefly discuss findings from literature reviews, scoping reviews, narrative reviews, and other non-systematic types of reviews at the end of the Results section. We describe findings as 'positive' when there is evidence that markers of low (*vs*. high) social positions are associated with lower mental health and wellbeing. Conversely, we describe findings as 'negative' when there is evidence that markers of high (*vs*. low) social positions are associated with lower mental health and wellbeing.

As shown in Table 3, there were 93 systematic reviews and meta-analyses. Of these reviews, most ($n = 69$; 74.2%) reported evidence linking different dimensions of social class to mental health and wellbeing, whereby lower social positions were associated with poorer mental health and wellbeing (e.g., life satisfaction, subjective wellbeing, quality of life, depression, anxiety, psychological distress). Of these 69 reviews, approximately equal proportions were assessed to have low and high risk of bias (low = 31; 44.9%; high = 27; 39.1%; N/A = 11; 15.9%). The strength of evidence provided by these reviews was assessed at JBI level 4. Overall, the evidence base for a significant positive relationship between social class and mental health and wellbeing was large but low quality.

Some primary-level studies reported a statistically significant negative relationship, but no reviews concluded that the evidence for a negative relationship was the most convincing. Of the 21 reviews reporting inconclusive or non-significant findings, most were assessed to have a low risk of bias (low = 12; 57.1%; high = 7; 33.3%; N/A = 2; 9.5%). Overall, the strength of evidence was assessed at JBI level 4 (from 11 reviews); however, the strength of evidence could not be determined in almost half of reviews reporting inconclusive or non-significant findings due to the limited detail provided ($n = 10$; 47.6%).

Looking at findings by subjective and objective measures of stratification, we see that there are proportionately more reviews reporting positive associations among those using subjective measures ($n = 6$ of 7; 85.7%), compared with objective measures ($n = 18$ of 28; 64.3%). However, this should be interpreted with caution as the number of reviews using subjective measures is small. Among both groups, around a third of reviews were assessed to have a high risk of bias (subjective = 2 of 7; 28.6%; objective = 10 of 28; 35.7%) and both were assessed to provide overall evidence at JBI level 4 (see Table 3).

Considering socioecological level, reviews that considered stratification at the individual-level (e.g., income, education, socioeconomic status) more often reported positive associations ($n = 49$ of 61; 80.3%) compared with those that used interpersonal-level (e.g., social capital; $n = 2$ of 5; 40.0%) or community-level measures (e.g., neighbourhood socioeconomic status, neighbourhood deprivation; $n = 3$ of 6; 50.0%). Reviews that included community-level measures were more often assessed to be low (*vs*. high) risk of bias and to provide overall evidence at JBI level 3. Conversely, reviews that only included interpersonal-level studies were more often assessed to be high risk of bias (*vs*. low) and to provide overall evidence at JBI level 4.

In terms of the different facets of stratification, reviews that examined subjective social status ($n = 7$ of 8; 87.5%), socioeconomic status ($n = 23$ of 30; 76.7%), income ($n = 26$ of 35; 74.3%), social capital ($n = 10$ of 14; 71.4%), economic resources ($n = 9$ of 13; 69.2%), and deprivation ($n = 22$ of 32; 68.8%) more often reported significant relationships with mental health and wellbeing when compared to reviews that examined education ($n = 26$ of 42; 61.9%), occupation ($n = 16$ of 32; 50.0%) or fell into the 'other' category ($n = 2$ of 3; 66.7%). The strength of evidence provided was JBI level 4 for all facets of stratification and in a majority of cases derived from reviews with a high risk of bias.

2.4.1. Best available evidence

Of the 93 systematic reviews and meta-analyses, only two reviews provided evidence at JBI level 2, indicating experimental designs (Cooper and Stewart, 2020; McGrath et al., 2021). Cooper and Stewart (2020) concluded that household income affected children's outcomes, including emotional development. Their review evaluated 54 primary studies, of which 18 were relevant to the current meta-review. However, this review was assessed to have a high risk of bias due to the selection procedures, and data collection and quality appraisal processes.

The second review to provide level 2 evidence had a low risk of bias

Table 3
Summary of the evidence for the relationship between stratification and mental health and wellbeing from systematic reviews and meta-analyses.

	No. reviews	No. reviews reporting					ROBIS assessment[a]	Review level of evidence	Summary level of evidence
		Pos	Neg	Inc	NS	Unknown			
Facet[b]									
Income	35	26	0	6	0	3	LOW = 17; HIGH = 12; N/A = 6	Level 1 = 0 Level 2 = 1; Level 3 = 8; Level 4 = 12; Level 5 = 1; Unknown = 13	Level 4
Deprivation	32	22	0	4	1	5	LOW = 20; HIGH = 10; N/A = 2	Level 1 = 0; Level 2 = 1; Level 3 = 9; Level 4 = 15; Level 5 = 0; Unknown = 7	Level 4
Economic resources (other)	13	9	0	4	0	0	LOW = 4; HIGH = 6; N/A = 3	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 6; Level 5 = 1; Unknown = 5	Level 4
Education	42	26	0	7	5	4	LOW = 21; HIGH = 14; N/A = 7	Level 1 = 0; Level 2 = 0; Level 3 = 10; Level 4 = 17; Level 5 = 0; Unknown = 15	Level 4
Occupation	32	16	0	7	2	7	LOW = 16; HIGH = 13; N/A = 3	Level 1 = 0; Level 2 = 1; Level 3 = 7; Level 4 = 11; Level 5 = 1; Unknown = 12	Level 4
Socioeconomic status	30	23	0	4	2	1	LOW = 13; HIGH = 12; N/A = 5	Level 1 = 0; Level 2 = 0; Level 3 = 6; Level 4 = 10; Level 5 = 0; Unknown = 14	Level 4
Subjective social status	8	7	0	0	0	1	LOW = 2; HIGH = 2; N/A = 4	Level 1 = 0; Level 2 = 0; Level 3 = 2; Level 4 = 3; Level 5 = 0; Unknown = 3	Level 4
Social capital	14	10	0	2	1	1	LOW = 7, HIGH = 6; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 10; Level 5 = 0; Unknown = 3	Level 4
Other	3	2	0	0	0	1	LOW = 2; HIGH = 0; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 2; Level 5 = 0; Unknown = 1	Level 4
Stratification Measures									
Objective	28	18	0	6	2	2	LOW = 13; HIGH = 10; N/A = 5	Level 1 = 0 Level 2 = 1; Level 3 = 7; Level 4 = 8; Level 5 = 1; Unknown = 11	Level 4
Subjective	7	6	0	1	0	0	LOW = 3; HIGH = 2; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 2; Level 4 = 4; Level 5 = 0; Unknown = 1	Level 4

(*continued on next page*)

Table 3 (*continued*)

	No. reviews	No. reviews reporting					ROBIS assessment[a]	Review level of evidence	Summary level of evidence
		Pos	Neg	Inc	NS	Unknown			
Objective and subjective	10	7	0	3	0	0	LOW = 5; HIGH = 3; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 3; Level 4 = 3; Level 5 = 0; Unknown = 4	Level 4
Unknown	48	38	0	6	3	1	LOW = 24; HIGH = 20; N/A = 4	Level 1 = 0; Level 2 = 1; Level 3 = 10; Level 4 = 22; Level 5 = 0; Unknown = 15	Level 4
Socioecological level									
Individual	61	49	0	7	2	3	LOW = 30; HIGH = 21; N/A = 10	Level 1 = 0; Level 2 = 2; Level 3 = 17; Level 4 = 23; Level 5 = 0; Unknown = 19	Level 4
Interpersonal	5	2	0	3	0	0	LOW = 1; HIGH = 3; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 2; Level 5 = 0; Unknown = 2	Level 4
Community	6	3	0	2	1	0	LOW = 4; HIGH = 2; N/A = 0	Level 1 = 0; Level 2 = 0; Level 3 = 2; Level 4 = 1; Level 5 = 0; Unknown = 3	Level 3
Combination of levels	8	6	0	2	0	0	LOW = 6, HIGH = 2; N/A = 0	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 8; Level 5 = 0; Unknown = 0	Level 4
Unknown	13	9	0	2	2	0	LOW = 4; HIGH = 7; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 2; Level 4 = 3; Level 5 = 1; Unknown = 7	Level 4
Mental Health & Wellbeing Measures									
Objective	0	0	0	0	0	0	N/A	N/A	N/A
Subjective	83	61	0	14	5	3	LOW = 39; HIGH = 31; N/A = 13	Level 1 = 0; Level 2 = 0; Level 3 = 18; Level 4 = 34; Level 5 = 1; Unknown = 30	Level 4
Objective and subjective	2	1	0	1	0	0	LOW = 1; HIGH = 1; N/A = 0	Level 1 = 0; Level 2 = 1; Level 3 = 1; Level 4 = 0; Level 5 = 0; Unknown = 0	Level 3
Unknown	8	7	0	1	0	0	LOW = 5; HIGH = 3; N/A = 0	Level 1 = 0; Level 2 = 1; Level 3 = 3; Level 4 = 3; Level 5 = 0; Unknown = 1	Level 3
Overall	93	69	0	16	5	3	LOW = 45; HIGH = 34; N/A = 14	Level 1 = 0; Level 2 = 2; Level 3 = 22; Level 4 = 37; Level 5 = 1; Unknown = 31	Level 4

Note. Pos = positive; Neg = negative; Inc = inconclusive; NS = non-significant; Unknown = unable to be determined. See text for how 'positive' and 'negative' findings are defined.

[a] We could not assess risk of bias using ROBIS in non-systematic reviews, hence they are coded N/A.

[b] Many reviews included more than one facet of stratification.

and concluded that, based on a small number of primary studies, there was some evidence that mental health problems associated with financial insecurity could be reduced via interventions (McGrath et al., 2021). This review explored how community interventions could protect and promote the mental health of working-age adults experiencing financial uncertainty. Their measures of socioeconomic status included financial uncertainty related to (un)employment, personal debt and legal issues, housing security, and food insecurity. They used a relatively broad measure of mental health and included measures related to life satisfaction, health service utilisation, and validated tools used to capture common mental disorders. The review included 15 primary studies, of which 8 were relevant to the current meta-review.

Of 22 reviews that provided level 3 JBI evidence, indicating observational analytical studies including cohort studies with control groups and observational studies without control groups, 15 were considered to have a low risk of bias. Of these reviews, most (n = 10 of 15; 66.7%) suggested a statistically significant positive association between different dimensions of social class and mental health and wellbeing. Each review contained between 2 and 64 primary studies relevant to the current meta-review. Depression was included in the majority (n = 9 of 10; 90.0%) of these reviews, and thus we can conclude that there is some evidence for class-based inequalities in depression.

Breaking down the data by different facets of stratification, and focusing on reviews with a low risk of bias, there was good evidence for an association between deprivation and mental health and wellbeing, with seven reviews at JBI levels 2and 3 finding supportive evidence, and only one review at JBI level 3 reporting inconclusive findings. Evidence for a link between socioeconomic status and mental health and wellbeing was also compelling (supportive: four reviews at JBI level 3; inconclusive: one review at JBI level 3). Subjective social status also yielded supportive evidence, but only based on one systematic review at JBI level 3. On the whole, evidence for a link between income and mental health and wellbeing was also favourable based on the aforementioned review by Cooper and Stewart (2020) and three other reviews at JBI level 3, although two systematic reviews at JBI level 3 reported inconclusive findings.

Evidence for a link between occupation and mental health and wellbeing was more tentative, with the best available evidence at JBI level 2 linking unemployment and precarious employment to a worsening in mental health and wellbeing (McGrath et al., 2021). However, findings emerging from four other reviews at JBI level 3 were mixed (one positive; three inconclusive) and drew on a small number of primary studies. A similar picture emerged for education, with two reviews supporting a link with mental health and wellbeing, two reviews yielding inconclusive findings, and two reviews reporting a non-significant relationship (all at JBI level 3 and with a low risk of bias).

The only systematic review that provided evidence for a link between economic resources (other than income and deprivation) at JBI level 3 with a low risk of bias was inconclusive. Finally, none of the reviews with a low risk of bias that examined social capital or other facets of stratification yielded evidence at JBI level 2 or 3, pointing to a lack of high-quality evidence linking these facets of stratification to differences in mental health and wellbeing.

2.5. When and why is social class linked to mental health and wellbeing?

Of the 93 systematic reviews and meta-analyses, 28 reviews included findings about factors that modulate the relationship between different dimensions of social class and mental health and wellbeing. In terms of socioecological level, half of these factors acted at the individual level (n = 14; 50.0%). We were unable to determine whether modulators were objective or subjective in a number of reviews (n = 12; 42.9%); however, the largest proportions that we could categorise were objective (n = 8; 28.6%), or objective and subjective (n = 7; 25.0%). Overall, most evidence for modulators was low quality at JBI level 4, indicating observational and cross-sectional study designs. The exception is evidence for moderation by geographic location and exposure to stress or trauma. Evidence in these areas was assessed at JBI level 3, indicating cohort or longitudinal study designs. Table 4 provides an overview of the most common modulators, Supplementary Materials Table S5 provides details of mechanisms identified by each review, and Fig. S1 provides examples of mediation and moderation.

2.5.1. Demographic

Overall, all reviews that explored age, gender, or ethnicity reported it as a moderator. However, there was no consistent evidence to support significant moderations of the relationship between social class and mental health and wellbeing. Considering age, half of the relevant reviews reported inconclusive or non-significant findings (n = 4). Of those reviews that reported significant findings, two reported a stronger association among (relatively) younger people (Pinquart and Sörensen, 2000; Reiss, 2013), whilst one reported a stronger association among (relatively) older people (Trudell et al., 2021). Similarly, there was no consistent evidence that gender moderated the relationship between social class and mental health and wellbeing. Most reviews reported inconclusive findings (n = 6), with two reviews reporting a significantly stronger association among men (Pinquart and Sörensen, 2000; Wetherall et al., 2019). Just two reviews explored ethnicity as a moderator; one reported some support for a stronger association among ethnic majority groups (Zell et al., 2018), and the other reported inconclusive findings (Kim, 2008).

2.5.2. Socioeconomic

Evidence suggested significant moderation and mediation by various socioeconomic factors. Eight reviews explored socioeconomic moderators. These reviews examined stratification in terms of neighbourhood deprivation, social capital, and subjective social status. Five reviews reported weaker associations with mental health and wellbeing for those higher in socioeconomic status (n = 2; Visser et al., 2021; Zell et al., 2018), higher in education (n = 2; Howell and Howell, 2008; Wetherall et al., 2019), or those in less deprived households (n = 1; Uphoff et al., 2013). Two reviews reported inconclusive or non-significant findings (Barnett et al., 2018; Kim, 2008), and one review reported stronger associations in those with *more* wealth (Tan et al., 2020). Three reviews explored mediation via subjective socioeconomic status and all reported significant indirect effects through subjective socioeconomic status or self-rated economic status (Tan et al., 2020; Villalonga-Olives and Kawachi, 2017; Wetherall et al., 2019). Only one review reported mediation via objective socioeconomic status and reported that education indirectly influenced quality of life through income (Chen et al., 2013).

2.5.3. Methodological

Overall, there was some evidence of moderation by measures of stratification and measures of mental health and wellbeing; however, evidence suggesting moderation by study quality and population was inconclusive. One review reported that the relationship was strongest when economic status was defined as wealth (a 'stock' variable), instead of as income (a 'flow' variable) – a finding that conflicts with our assessment of the best available evidence for these two facets of stratification (i.e., economic resources vs. income), as discussed above (Howell and Howell, 2008). Another review reported that the presence of range restriction (i.e., when a subset of data values is included in an analysis instead of the full range of possible values) was associated with larger correlations between income and depressive symptoms, and with

Table 4
Summary of the evidence for common factors modulating the relationship between stratification and mental health and wellbeing.

	No. reviews	Mediation or moderation	Summarised findings	ROBIS assessment[a]	Level of evidence	Summary level of evidence
Demographic						
Age	7	Mod	Inconclusive	Low = 4; High = 1; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 4; Level 5 = 0; Unknown = 2	Level 4
Gender	8	Mod	Inconclusive	Low = 6; High = 1; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 5; Level 5 = 0; Unknown = 2	Level 4
Ethnicity	2	Mod	Inconclusive	Low = 0; High = 1; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 2; Level 5 = 0; Unknown = 0	Level 4
Socioeconomic						
Socioeconomic status/ income/education	9	Mod (n = 8); Med (n = 1)	Moderation: some evidence for stronger association with lower social class Mediation: Significant via income	Low = 4; High = 2; N/A = 3	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 6; Level 5 = 0; Unknown = 3	Level 4
Subjective socioeconomic status	3	Med	Significant mediation via subjective socioeconomic status	Low = 1; High = 1; N/A = 1	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 2; Level 5 = 0; Unknown = 1	Level 4
Methodological						
Measures of stratification[b]	2	Mod	Both significant	Low = 0; High = 0; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 0; Level 5 = 0; Unknown = 2	Unknown
Measures of wellbeing[c]	3	Mod	Significant (n = 2). Non-significant (n = 1)	Low = 0; High = 0; N/A = 3	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 0; Level 5 = 0; Unknown = 3	Unknown
Study quality[d]	2	Mod	Inconclusive	Low = 0; High = 0; N/A = 2	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 1; Level 5 = 0; Unknown = 1	Level 4
Population	5	Mod	Inconclusive	Low = 1; High = 0; N/A = 4	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 1; Level 5 = 0; Unknown = 3	Level 3
Psychosocial						
Sense of control	2	Med	Significant mediation via sense of control	Low = 1; High = 1; N/A = 0	Level 1 = 0; Level 2 = 0; Level 3 = 0; Level 4 = 2; Level 5 = 0; Unknown = 0	Level 4
Social capital	5	Med	Significant mediation via social capital (n = 3) Mixed results (n = 2)	Low = 3; High = 2; N/A = 0	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 4; Level 5 = 0; Unknown = 0	Level 4
Exposure to stress or trauma						
Exposure to stress or trauma	7	Mod (n = 3) Med (n = 5)	Moderation: Inconclusive Mediation: significant via negative experiences	Low = 2; High = 3;	Level 1 = 0; Level 2 = 0;	Level 3

(*continued on next page*)

Table 4 (*continued*)

	No. reviews	Mediation or moderation	Summarised findings	ROBIS assessment[a]	Level of evidence	Summary level of evidence
				N/A = 2	Level 3 = 2; Level 4 = 2; Level 5 = 0; Unknown = 3	
Physical health and health behaviours						
Physical health and health behaviours	4	Mod (n = 1) Med (n = 3)	Moderation: non-significant Mediation: inconclusive	Low = 3; High = 1; N/A = 0	Level 1 = 0; Level 2 = 0; Level 3 = 1; Level 4 = 2; Level 5 = 0; Unknown = 1	Level 4

Note.

[a] We could not assess risk of bias using ROBIS in non-systematic meta-analyses, hence they are coded N/A.

[b] "Measures of stratification" assesses whether the relationship with mental health and wellbeing varies depending on the facet of stratification used as a predictor.

[c] "Measures of wellbeing" assesses whether the social gradient varies depending on the aspect of mental health and wellbeing captured as an outcome.

[d] "Study quality" assesses whether the relationship between stratification and mental health and wellbeing varies depending on the methodological robustness or quality of the primary studies.

smaller correlations between years of education and depressive symptoms (Korous et al., 2022).

Three reviews explored how measures of mental health and wellbeing may modify inequalities in mental health and wellbeing. One reported that the relationship between economic status and subjective wellbeing was strongest when subjective wellbeing was measured as life satisfaction (a cognitive assessment), instead of as happiness (an emotional assessment; Howell and Howell, 2008). Another review reported stronger associations when measures of depression had higher measurement reliability, and using the CES-D scale consistently produced the strongest correlations (Korous et al., 2022). The final review reported no significant differences between measures of depression, psychological wellbeing, and psychological variables (e.g., self-esteem; Quon and McGrath, 2014). Two reviews explored whether results varied by study quality; however, overall findings were inconclusive. Whilst one review reported stronger associations among lower quality studies (Zell et al., 2018), the other reported no significant differences by study quality (Quon and McGrath, 2014).

In terms of population, one review reported that inequalities were most pronounced in North American samples, which primarily consisted of people from the United States, compared to samples from other continents (Zell et al., 2018). However, another review reported that the average economic status–subjective wellbeing effect size was strongest among low-income (*vs.* high-income) developing economies (Howell and Howell, 2008). One review reported that in moderation analyses, associations strengthened as samples increased in population density, decreased in income inequality, and decreased in relative social mobility (Tan et al., 2020). However, another review makes the crucial point that whilst results seem to vary by geographic regions, this may not be that useful due to heterogeneity between studies conducted in different locations (Quon and McGrath, 2014). Finally, one review explored whether results varied by rurality (*vs.* urbanicity); however, they report inconclusive results (Trudell et al., 2021).

2.5.4. Psychosocial

Evidence suggested mediation by psychosocial factors. Five reviews explored various aspects of social capital as a mediator in the relationship between different facets of stratification and mental health and wellbeing. Of these reviews, most reported that social capital (e.g., social support) buffers the impact of lower economic capital – operationalised as socioeconomic status or socioeconomic environment – on mental health (n = 3; Kim, 2008; Read et al., 2016; Trudell et al., 2021), whilst two reviews reported mixed findings that depended upon the type of social capital examined (Handley, 2019; Uphoff et al., 2013). These reviews suggested that particular aspects of social capital could be detrimental. For example, for deprived households, 'bonding' social capital (e.g., attachment to neighbourhood) was associated with higher reporting of common mental disorder. However, 'bridging' social capital (e.g., contact amongst local friends) was associated with lower reporting of common mental disorders.

Two reviews explored sense of control (e.g., agency, mastery, sense of coherence) as a mechanism and both reported it to be significant. One review reported that 7 of 8 primary studies that had included sense of control reported significant findings (Frankham et al., 2020; see also Chen et al., 2013).

2.5.5. Exposure to stress and trauma

Overall, evidence suggested that exposure to stress and trauma mediated the relationship between different dimensions of social class and mental health and wellbeing, but evidence for moderation was inconclusive. Seven reviews explored the impact of stress and trauma. Four reviews reported that the link between stratification and mental health and wellbeing was mediated by increased stress, including stress arising from negative experiences (Chen et al., 2013), greater exposure to trauma (Peverill et al., 2021), adverse working conditions (Hoven and Siegrist, 2013), and life course transitions related to family, income, and employment (Visser et al., 2021). One review explored whether the timing of early life stress moderated the relationship between deprivation and wellbeing, but findings were non-significant (LeMoult et al., 2020). One review reported that family socioeconomic status had moderating effects between academic stress and depression, where students with high family socioeconomic status had lower rates of depression (Wen and Hu, 2022). Finally, one review explored various life course models in explaining the relationship between adverse socioeconomic experiences and mental health and wellbeing. They reported evidence for an overall relationship, but mixed results were found for each life course model (Niedzwiedz et al., 2012).

2.5.6. Physical health and health behaviours

Overall, there was no consistent evidence suggesting mediating or moderating effects of physical health and health behaviours. Four reviews explored the potential mediating and moderating role of physical health and health behaviours. Two reviews reported significant mediation via knowledge of health care and health-related behaviours, respectively (Chen et al., 2013; Read et al., 2016). One review explored mediation via physical health, but findings were inconclusive (Trudell et al., 2021). One review explored a number of medical conditions and functional health; however, neither contributed to inequalities in mental health and wellbeing (Barnett et al., 2018).

2.5.7. Less common mechanisms

Two reviews exploring seasonality (e.g., wet *vs.* dry season) and

welfare interventions, respectively, provided evidence at JBI level 3; both reported inconclusive findings (Simpson et al., 2021; Trudell et al., 2021). The remaining reviews provided evidence at JBI level 4 ($n = 11$) or did not provide details of primary studies to allow quality assessments ($n = 5$). As a result, there was some limited evidence to suggest factors such as cognitive skills, decision making, quality of food, leisure, and health, personality traits, management of difficulties, family processes and functioning, receipt of public assistance, resources that support cognitive, social, emotional, and physical development, controlling behaviour, emotional dysregulation, rumination, social anxiety, and neighbourhood socioeconomic status acted as mechanisms. Findings for mediation by self-esteem were inconclusive, and findings for moderation by years of residence in a neighbourhood were non-significant. See Supplementary Materials Table S5 for further details.

2.5.8. Best available evidence

One review exploring mechanisms was assessed at JBI level 2 with a low risk of bias (McGrath et al., 2021). This review explored community- and society-level interventions related to welfare and advice services located in healthcare settings, social prescribing, debt advice services, food insecurity interventions, and active labour market programmes. From a small number of primary studies without a high risk of bias, there was some evidence that financial insecurity and associated mental health problems were amenable to change.

Four reviews exploring mechanisms were assessed to provide evidence at JBI level 3 with a low risk of bias. Trudell et al. (2021) explored the relationship between food insecurity and mental health. The review reported significant moderation by age - an individual-level variable, whereby the association was stronger among older people. The review also reported quantitative and qualitative support for the role of social networks – an interpersonal-level variable - as a buffer in the relationship between food insecurity and mental health. Findings for gender, physical health, and rural (*vs*. urban) environment were inconclusive. Simpson et al. (2021) evaluated interventions related to society-level financial policies. The review found no conclusive evidence that the expansion of financial policies, such as tax credits, child benefits, and retirement funds, improved mental health and wellbeing. However, the contraction of social assistance programmes had a negative impact on depression.

Guan et al. (2022) explored more comprehensive pathways in the relationship between financial stress and depression. The reviewed evidence supports the social causation pathway, whereby individuals who have low income are more likely to be exposed to economic uncertainty, unhealthy lifestyles, worse living environments, deprivation, malnutrition, and decreased social capital among other things, which in turn impacts depression. Guan et al. (2022) also reported that depression might increase expenditure on healthcare, reduce productivity, and lead to unemployment, as well as an association with social stigma, all of which were related to lower levels of income. Overall, this review highlights a variety of mechanisms that act in the bidirectional relationship between financial stress and depression.

Niedzwiedz et al. (2012) explored how early or later life exposure to low socioeconomic position (also known as life course models) might influence quality of life. Generally, evidence indicated an overall relationship, but mixed results were found for each life course model. Some evidence was found to support the latent model among women (but not among men), whereby adverse socioeconomic circumstances during childhood have an independent, detrimental effect on quality of life. Social mobility models were supported in some studies, but overall evidence suggested little to no effect. Findings for the accumulation model, where adverse socioeconomic experiences have a cumulative, dose–response effect on later outcomes, and pathway effects, which suggest that the influence of childhood socioeconomic status is attenuated after considering later conditions, were inconclusive due to a lack of primary studies.

2.6. Non-systematic reviews

2.6.1. Relationship between social class and mental health and wellbeing

There were 56 reviews that were neither systematic reviews nor meta-analyses. In line with the reviews discussed above, the majority reported an overall positive, statistically significant relationship between stratification and mental health and wellbeing ($n = 42$; 75.0%), a few reported a non-significant relationship ($n = 4$; 7.1%) or inconclusive findings ($n = 7$; 12.5%), and none reported a negative relationship. We could not determine overall findings from 3 reviews (5.4%). However, this evidence was lower quality, with just 4 reviews (7.1%) providing JBI level 3 evidence, and 51 reviews providing evidence at JBI levels 4 and 5 (level 4 = 16, 28.6%; level 5 = 35, 62.5%).

2.6.2. Mechanisms

Of the 56 reviews, 27 (48.2%) reported mechanisms in the relationship. Around a third ($n = 10$; 37.0%) discussed mechanisms that were commonly cited by systematic reviews. For example, age, gender, social support, sense of control, and stress. However, many reviews ($n = 16$; 59.3%) also discussed mechanisms that were not commonly cited by systematic reviews. This included parental mental health, parenting practices and family conflict, socioeconomic position of school, neighbourhood social capital, and biological pathways involving epigenetic change and biomarkers. However, as noted above, most of the evidence was rated low quality at JBI levels 4 and 5 (level 4 = 8, 29.6%; level 5 = 18, 66.7%). The exception is one scoping review rated at JBI level 3, which explored energy poverty and mental health, and reviewed interventions related to energy efficiency and heating improvements (Ballesteros-Arjona et al., 2022). The review found mixed evidence that energy efficiency improvements reduced mental health inequalities, and no evidence that heating improvements had any beneficial effects. Overall, whilst non-systematic reviews may suggest ways in which social class is associated with mental health and wellbeing, the evidence base is low quality at JBI level 4 and 5 (i.e., observational studies or expert opinion). Notably, non-systematic reviews provided lower quality evidence than the evidence presented by systematic reviews and meta-analyses discussed above.

3. Discussion

In the current meta-review, we found a large body of low-quality evidence linking social class to mental health and wellbeing. Commonly, the strength of the synthesised evidence was assessed at JBI levels 4 and 5, indicating non-experimental research such as cross-sectional study designs and expert opinion. Only two reviews provided higher quality evidence at JBI level 2 (i.e., quasi-experimental study designs). The first review found evidence of a relationship between higher household income and better childhood mental health and wellbeing (Cooper and Stewart, 2020). The second reported evidence from a small number of studies that financial insecurity and associated mental health problems could be amenable to change via effective interventions (McGrath et al., 2021). The finding with the most robust evidence base was for the relationship between lower social positions and an increased risk of depression, which was supported by 9 reviews assessed at JBI level 3, indicating non-experimental research such as longitudinal or cohort study designs, with a low risk of bias. There was no compelling evidence for a statistically significant relationship in the opposite direction.

In terms of different facets of stratification, the best available evidence suggests that deprivation (e.g., poverty, financial stress), socioeconomic status (as a summary index), income, and subjective social status are consequential for individuals' mental health and wellbeing. In contrast, high-quality evidence for the roles of education, occupation, other economic resources (e.g., wealth, affluence), and social capital was either lacking or inconclusive. In terms of socioecological level, social stratification was most often measured at the individual level, as

opposed to the interpersonal or community level.

To explore when and why social class is linked to mental health and wellbeing, we evaluated the evidence for moderators and mediators. However, as above, evidence was commonly provided at JBI level 4, indicating cross-sectional study designs. Considering *when* social class may impact mental health and wellbeing (i.e., moderators), we found no consistent pattern by demographic characteristics such as age, gender, or ethnicity. We found some evidence for socioeconomic moderators (e.g., education, income), whereby the association between some facets of stratification (e.g., subjective social status, social capital) and mental health and wellbeing was weaker among those with higher education or income.

In exploring *why* social class can impact mental health and wellbeing (i.e., mediators), we found some evidence that *subjective* socioeconomic factors (e.g., subjective social status), sense of control, and social capital mediated the relationship between indices of social stratification and mental health and wellbeing. We also found some evidence to suggest those with lower social positions experienced increased stress, including negative experiences, greater exposure to trauma, financial stress, and adverse working conditions, which negatively impacted mental health and wellbeing. Whilst some reviews explored the mediating role of physical health, findings were inconclusive. Overall, when we reviewed *when* and *why* different dimensions of social class are associated with mental health and wellbeing, we found that previous research had more often explored the *when* (i.e., moderation), as opposed to the *why* (i.e., mediation). In terms of the socioecological model, mechanisms most often focused on the individual level. However, we also found high-quality evidence that social networks acting at the interpersonal level, and welfare and advice services acting primarily at the community level can alleviate inequalities in mental health and wellbeing, whereas the contraction of social assistance programmes acting at the societal level can have a negative impact.

3.1. Implications and future directions

Overall, we found evidence pointing to a significant positive relationship between social class and mental health and wellbeing, which aligns with findings from other meta-reviews (Ehsan et al., 2019; Lund et al., 2018). However, while there was evidence for class-based inequalities in depression, in line with Lund et al. (2018), we found a lack of high-quality evidence linking social class to other facets of mental health and wellbeing. To advance this line of work, future reviews should report information related to the primary study designs, to allow an assessment of the strength of evidence.

Extending previous meta-reviews, we adopted a broad perspective on social class, examining different facets of stratification arising from economic, social, and cultural capitals (Bourdieu, 1986). In doing so, we found that the current evidence base for a social gradient in mental health and wellbeing is more robust for some facets of stratification (deprivation, socioeconomic status, income, subjective social status) than for others (education, occupation, economic resources, social capital). Evidently, this does not imply that education, occupation, economic resources, or social capital are inconsequential for individuals' mental health and wellbeing. Putting the quality of the evidence aside, the majority of reviews examining these latter facets of stratification found evidence for class-based inequalities. However, there is a need for further high-quality evidence to arrive at a firm conclusion. To provide examples of such evidence, primary studies have provided evidence at JBI level 1 through use of a randomised controlled trial to evaluate the impact of cash transfer interventions on wellbeing (Baird et al., 2013; Courtin et al., 2018).

In identifying mechanisms that modulate the relationship between social class and mental health and wellbeing, we found that whilst some research had explored moderating factors, less research had explored mediating factors. Meta-reviews in related areas focused on moderation through the evaluation of interventions to reduce health inequalities (McGowan et al., 2021; Shah et al., 2021). In line with this, we found evidence supporting the role of community interventions and social networks (McGrath et al., 2021), but also found some evidence that socioeconomic factors such as income and education may buffer the impact of lower subjective social status and lower social capital. These findings highlight the need for more research into how different forms of stratification at different socioecological levels combine to shape people's class identity, and what the consequences are for people's mental health and wellbeing (cf. Manstead et al., 2020).

To our knowledge, no meta-reviews have been published that explore mediators. The current meta-review suggests that psychosocial factors, such as sense of control and social capital, and exposure to stress or trauma could play a mediating role. Identifying *when* and *why* social class impacts mental health and wellbeing is an essential step so we can devise effective strategies and policies to reduce inequalities in mental health and wellbeing. Future research in this area should focus on providing high-quality evidence for moderations and mediations.

Prior research suggests that inequalities in mental health do not only stem from individual behaviours or genetics, but also from policies and structures present in the wider environment (Kim et al., 2022; Niedzwiedz et al., 2016). Using the socioecological framework highlighted that many reviews examined stratification at the individual level. Likewise, around half of mechanisms acted at the individual level, as opposed to the interpersonal or community level. The limited evidence that does exist suggests that the social and political environment can impact class-based inequalities in mental health and wellbeing. Further research is needed to understand the multiple ways in which social class manifests and impacts mental health and wellbeing.

Considering the different forms of capital, we see that economic capital has been most commonly explored through measures such as income, poverty, and wealth. There is also substantial literature exploring 'social capital' (Ehsan et al., 2019); however, this term has been used in a variety of ways, which do not always align with Bourdieu's definition (1986). For example, social capital has been used to describe religiosity, civic engagement, and trust in others (McPherson et al., 2014). Whilst research has often considered 'social capital' to be a measure of social network, it has rarely considered the status of the people in the network and the potential resources available to an individual because of this. Cultural capital has most commonly, and perhaps only, been measured via education. Health research measuring cultural capital in alternative ways is scarce. Preliminary cross-sectional findings from primary studies suggest that, unlike economic and social capital, cultural capital may not be associated with mental health and wellbeing (Pinxten and Lievens, 2014). The present research highlights the need to examine different forms of capital and dimensions of social class to determine their relative contributions to individuals' mental health and wellbeing.

In the current work, we found that objective measures of stratification were used more often than subjective measures. A meta-analysis of 357 studies reported that the association between *subjective* socioeconomic status and wellbeing was larger than the association between *objective* socioeconomic status and wellbeing (Tan et al., 2020). Considering this, it is unfortunate that we could not identify whether subjective or objectives measures of stratification were used in a large proportion of reviews. For this reason, we would encourage authors to provide this crucial level of detail in future reviews to allow for research exploring the relationship between these concepts.

A large proportion of work explored how stratification is associated with positive and negative affect and, in particular, depression. There is a lack of research exploring eudaimonic dimensions of mental health and wellbeing that emphasise meaning, and capture aspects such as purpose and fulfilment. Previous research suggests that socioeconomic status may be more strongly associated with eudaimonic components of wellbeing, such as purpose in life, than with hedonic aspects of wellbeing, such as positive affect (Ryff et al., 2021). To gain a more complete understanding of class-based inequalities in mental health and

wellbeing, future research should examine both hedonic and eudaimonic components of wellbeing.

The current meta review also revealed that a large focus has been on HICs, and as a result, the evidence base has likely disproportionately excluded relevant primary research from LMICs. This is important as the features of social class explored among HICs may not be useful indicators for LMICs. For example, one review included measures such as the number and value of household and farm assets because fewer people living in LMICs earn a regular income as is common in HICs (Howell and Howell, 2008). In this instance, assets may be a more useful indicator than income. Future research should ensure that LMICs are included where possible, to determine the generalisability of findings and to allow assessment between, as well as within, LMICs and HICs.

3.2. Strengths and limitations of the current work

The current work has several strengths. As the first meta-review exploring social class and mental health and wellbeing, this work provides a comprehensive overview of (1) the overall relationship between social class stemming from economic, social, and cultural capital and mental health and wellbeing, (2) the mechanisms that act in this relationship, and (3) the strength of evidence provided by the research. Previously, meta-reviews had focused on specific aspects of social class and had not explored factors that may modulate the relationship. Considering the growing cost of poor mental health and wellbeing to the global economy and rising economic inequality (Chancel et al., 2022; The Lancet Global Health, 2020), there is a pressing need to understand the underlying determinants. The current meta-review provides key insights into this area, identifies priority areas for future research, and provides methodological recommendations to move research in this field forward.

Despite these strengths, the current work has some limitations. First, primary studies could have been included in multiple reviews, which may have led to an overrepresentation of those findings in the current meta-review. To address this common limitation of meta-reviews, we relied upon quality of evidence to indicate confidence in findings, as opposed to the number of significant primary studies. Second, the current meta review only included English language reviews, therefore, we may have excluded relevant reviews that were published in other languages. Finally, a limitation of all reviews and meta-reviews is publication bias. Primary studies with non-significant or inconclusive results may not have been published, which may have skewed overall findings reported within the reviews synthesised in our meta-review. Further, as reviews explore particular topics within a research area, there may be some topics that are not represented in the current work due to the lack of a published review, rather than a lack of primary studies.

Different disciplines and research traditions have adopted different perspectives on social class. Some have taken a broad view equating social class to the possession and use of different capitals, some have adopted a somewhat narrower view equating social class to socioeconomic status, and yet some reserve the term for classifications arising from people's employment relations (Veenstra, 2007). Our meta-review of different facets of stratification bears relevance for proponents of different research traditions. Nevertheless, the picture that emerged is a snapshot of the literature, which does not readily lend itself to a comparison of different theoretical approaches (for recent primary research attempting such a juxtaposing, see Whitley et al., 2022). Relatedly, most reviews implicitly or explicitly took a social gradient approach examining stratification on a continuum that ranges from low to high. Only two non-systematic reviews also summarised a small number of primary studies that explicitly deviated from this approach (Cerigo and Quesnel-Vallée, 2017; Muntaner et al., 2007). For pragmatic reasons, evidence arising from work that did not follow a social gradient approach was classified under the 'other' category of stratification. Exclusion of this work does not change the conclusions of the present meta-review, which speaks to the large body of work that adopted a social gradient perspective.

4. Conclusion

A large but low-quality evidence-base suggests that social class is linked to mental health and wellbeing with the strongest available evidence linking lower social positions to an increased risk of depression. There is high-quality evidence linking deprivation, socioeconomic status (as a summary index), income, and subjective social status to mental health and wellbeing. However, high-quality evidence for the roles of education, occupation, other economic resources (e.g., wealth, affluence), and social capital is currently limited. There was some evidence for mediating effects via psychosocial mechanisms (e.g., sense of control and social capital) and experience of stress (e.g., exposure to trauma, financial stress, and adverse working conditions). There was also some evidence for moderations, whereby the association between some facets of stratification (e.g., subjective social status, social capital) and mental health and wellbeing was weaker among those with higher socioeconomic status. From a socioecological perspective, most reviews had employed individual-level measures (e.g., income, education), as opposed to interpersonal- (e.g., social capital) or community-level (e.g., neighbourhood deprivation) measures. Further, most reviews had explored hedonic aspects of mental health and wellbeing (e.g., happiness, depression, emotional affect), as opposed to eudaimonic aspects (e.g., purpose, fulfilment). Overall, however, a key finding from this meta-review concerns the low quality of the evidence base in this area, which primarily consists of cross-sectional, longitudinal, and cohort studies. Future research employing experimental or quasi-experimental methods, and systematic reviews with a low risk of bias, are necessary to determine with greater certainty how, when, and why social class impacts mental health and wellbeing.

Funding statement

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

CRediT authorship contribution statement

Isla Dougall: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing – original draft, Writing – review & editing. **Milica Vasiljevic:** Conceptualization, Data curation, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Jack D. Wright:** Formal analysis, Validation, Writing – original draft, Writing – review & editing, Investigation. **Mario Weick:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.socscimed.2023.116542.

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