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Cumulative Risk of Undiagnosed Mental Distress in the UK General Population: The Role of Protected Characteristics

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ABSTRACT

This study explores cumulative risk and mental health care inequalities focusing on “at-risk” protected characteristics. Data was extracted from the UK Household Longitudinal Study (2009–2022). Respondents were categorised by the number of “at-risk” characteristics (0 to 5+). The relationship between number of “at-risk” protected characteristics and mental distress measured via the General Health Questionnaire-12 was explored using linear regression. Mental distress increased with the accumulation of two or more at-risk characteristics, with larger coefficients evident for men. The relationship between undiagnosed mental distress and number of “at-risk” protected characteristics was explored using multinomial regression. Risk of undiagnosed mental distress increased with the accumulation of one or more “at-risk” characteristics for both men and women. Men with 5+ protected characteristics (RRR = 8.84) and women with four protected characteristics (RRR = 4.03) experienced greatest risk of undiagnosed mental distress. Descriptive analysis revealed increased risks for younger, disabled and/or gay or bisexual men; and younger, ethnic minority and/or lesbian or bisexual women. Findings suggest that young lesbian, gay and bisexual people may experience greatest disadvantage in relation to access to NHS mental health care and that young gay or bisexual men with a disability experience extreme disadvantage relative to other men.

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Introduction

Figures show 3.25 million people accessed National Health Service (NHS) funded mental health, learning disability and autism services in 2021/22, at a cost of £12 billion (House of Commons Committee of Public Accounts, 2023; NHS digital, 2022). However, not everyone who experiences mental distress is accessing NHS care for their mental health. One way to identify the potential scale of this “treatment gap,” is to examine levels of “undiagnosed mental distress,” defined as people experiencing clinical levels of mental distress as measured by standardised questionnaires but who have not received a diagnosis from a health care professional. This is an indicator that the person experiencing distress is unlikely to have accessed NHS health services in relation to their mental distress given that diagnosis is understood to be an important step towards NHS treatment. The Adult Psychiatric Morbidity Survey (APMS) found only 65.5% of adults identified as having a common mental health condition (CMHC) had been diagnosed by a professional, meaning 33.5% had not (Liubertiene et al., 2025). A very similar proportion of people identified as having a CMHC (34.8%) had not received treatment (including primary care appointments, inpatient care, outpatient care, community and day-care services). As noted in the APMS report, diagnosis by a health professional is an important step towards receiving NHS treatment and APMS study authors emphasise that identifying patterns in undiagnosed CMHCs is important to reveal inequalities in access to NHS care (Bogdanova et al., 2022; Clery et al., 2025).

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In addition to an overall treatment gap, there is evidence that those who access mental health services may not represent the populations in greatest need and that some populations may experience unequal access to care. The APMS data indicates differences in mental health access according to some protected characteristics. Men and women were equally likely to be receiving treatment; White British people were more likely to be receiving treatment. However, these figures were not considered in relation to treatment need (presence of CMHC) and do not therefore give information about inequalities in access to treatment (Clery et al., 2025).

Previous research has highlighted the importance of investigating inequalities in mental health access by protected characteristics, as defined by the UK's *Equality Act 2010* (UK Government, 2010)—a law designed to prevent discrimination in contexts such as job recruitment, employment rights, access to education, health, and other services. Protected characteristics are one of the four domains used by the UK government to identify health inequalities and as such require consideration in research (Office for Health Improvement and Disparities, 2022). Evidence of inequalities in access to care has been found in relation to age, ethnicity, sexual orientation, disability, religion, and gender (Bartlett et al., 2014; Dikaios & Elena, 2017; Government Equalities Office, 2018; Kapadia et al., 2022; Royal College of Psychiatrists, 2018). For example, research investigating protected characteristics and the risk of undiagnosed mental distress using data from *Understanding Society: the UK Longitudinal Household Survey* (UKHLS) found that people living with a disability were 2.8 times more likely, lesbian, gay and bisexual people were 1.4 times more likely, and women were 1.5 times more likely to be living with undiagnosed mental distress (Wicks et al., 2024).

However, investigating inequalities associated with each protected characteristic independently fails to consider the more complex social identities within which people exist and in which their experiences of mental health and mental health care are embedded. As noted by NHS England's "Advancing mental health equalities strategy" (NHS England, 2020), "while many of these inequalities are attributable to populations sharing one characteristic (e.g. an age grouping), they do not account for the other intersectional characteristics which make-up a patient's lived experience." In spite of this recognition across NHS and local authority service commissioning, there remains little evidence to inform commissioners about intersectional inequalities in access to mental health care in the UK.

To further investigate the role of protected characteristics in risk of undiagnosed distress, we draw upon Cumulative Risk Theory (CRT; Rutter, 1979). CRT is concerned with examining how multiple risk factors can increase the likelihood of developing mental health problems. Researchers using CRT often dichotomise risk factors and then sum these binary indicators to create a cumulative risk score. Although simplistic, particularly considering emerging frameworks such as intersectionality and the availability of more complex analytical approaches, e.g. multilevel analysis, CRT is still considered useful due to its construct validity, parsimony, and indication of a dose response with accumulation of risk factors (Evans et al., 2013). CRT has been extensively used to investigate the effects of Adverse Childhood Experiences on child and adult health outcomes, e.g. Lian et al. (2024). However, its application in research is much broader, including predicting risk of violent offending and food insecurity (Andershed et al., 2016; Hernandez, 2015).

As mentioned, researchers are increasingly investigating mental health inequalities employing an intersectional perspective, which recognises that individuals embody multiple social characteristics, and that individual profiles of characteristics may combine both advantaged and disadvantaged positions (Crenshaw, 2013). Noted challenges of intersectional research include the prohibitively large samples required for the complex designs and translation of research into practice, however approaches to overcome these challenges have been proposed (Kelly et al., 2021; O'Connor et al., 2019). This study focuses solely on protected characteristics and not the full range of potential risk/protective factors that may be associated with undiagnosed mental distress. Therefore, the additive approach used in CRT is appropriate as a starting point in investigating the impact of multiple "at-risk" protected characteristics in the context of undiagnosed mental distress. The additive approach will enable examination of how multiple "at-risk" protected characteristics can increase the likelihood of undiagnosed distress, rather than focussing on identifying specific profiles of protected characteristics associated with increased risk.

The present study distinguishes between inequalities in levels of mental distress versus inequalities in accessing mental health care. In this context, we use undiagnosed mental distress as a proxy indicator of a “treatment gap,” i.e. an unmet mental health care need. This is because accessing mental health treatment in the NHS is generally preceded by or leads to a diagnosis, whether the diagnosis is provided by a referring GP or by a mental health professional following a GP or self-referral to NHS Talking Therapies, secondary care or community mental health teams.

To further explore the association between protected characteristics (according to the UK Equality Act) and mental health inequalities, the aims of this study are (1) to investigate whether there is a cumulative disadvantage to mental distress with increasing numbers of “at-risk” protected characteristics and (2) to investigate whether there is a cumulative risk of undiagnosed mental distress with increasing numbers of “at risk” protected characteristics. In order to assist with the interpretation of these findings and to understand further the role of protected characteristics in the cumulative risk of undiagnosed mental distress, a further aim is to provide a descriptive analysis of accumulating disadvantage in terms of which protected characteristics feature most among individuals with different numbers of “at-risk” characteristics.

Methodology

Study design and participants

UKHLS is a household panel study that includes more than 25,000 UK households and approximately 40,000 individuals. Since 2009, each household member has been interviewed on an annual basis on a range of topics including health and wellbeing, employment, and finances. Interviews are carried out by trained interviewers or by self-completion online. Data for this study was extracted from waves 1 to 13 (January 2009 to May 2022) of the UKHLS main survey. Data from adult household members (aged 16+ years) who completed at least one wave of the UKHLS between waves 10 and 13 were included in the study. When missing, data relating to protected characteristics were used from waves 1–9 to reduce missingness.

Measures

Demographic variables

To reflect categories arising from the UK Equality Act, variables were dichotomised where possible (e.g. men and women). For most variables relevant to the Equality Act, there was no straightforward dichotomy (for example ethnicity, religious beliefs). Owing to small sample sizes for some categories, e.g. sikh, these variables were grouped into the majority group versus minority groups. This allowed preservation of sample size when combining characteristics into categories. Age was grouped into categories with 16–24 as the reference group and further categories of 25–34, 35–44, 45–54, 55–64, 65–74, and 75+. For sex (the question asked is “Are you male or female?”), males were the reference group. For marital status, the reference group was married or in a civil partnership and the comparison group was not married or in a civil partnership. For disability, the reference group was no long-term health condition and the comparison group was people with a long-term health condition. For religion, the reference group was no religious affiliation and the comparison groups were Christian (including Catholic) or a minority religion. For ethnicity, the reference group was White British and the comparison group was minority ethnic group. For sexual orientation, the reference group was heterosexual and the comparison group was lesbian, gay, bisexual or other sexual orientation (LGB). Permission to access sexual orientation data was gained via a special licence application to the UK Data Service. Data about gender re-assignment was unavailable in the dataset. Pregnancy was not included due to the small number of respondents reporting a pregnancy in each wave. Economic activity and highest educational attainment were used for robustness checks, due to existing evidence that these variables may influence undiagnosed mental distress. Economic activity was dichotomised as “active employment” (full/part-time employment or self-employed) or “economically inactive” (all remaining categories

including retired, student, unemployed, etc.). Highest educational attainment was dichotomised as “post-secondary” or “high school (or equivalent) and other”.

Eligible respondents were those with an observation between waves 10 and 13. The most recent observation was extracted for analysis. To reduce missingness, data were pulled forward from earlier waves for diagnosis of clinical depression, religion, and sexual orientation.

Measures of mental health

General health Questionnaire-12. The 12-item General Health Questionnaire (GHQ-12) (Goldberg & Williams, 1988) is a self-report measure of non-specific mental distress during the past two weeks. The measure consists of 12 positively or negatively worded items, e.g. “Thinking of self as worthless,” “Able to concentrate,” with a 4-point Likert-type response scale (0 to 3). The UKHLS dataset provides two derived variables based on the GHQ-12 and both were used in this study. The Likert scoring method sums individual item scores to create a continuous scale ranging from 0 (the least distressed) to 36 (the most distressed). The binary (or caseness) scoring method recodes individual item responses (0 and 1=0; 2 and 3=1), with items summed to create a scale ranging between 0 (the least distressed) to 12 (the most distressed). A score of four or above on the binary score range was used to indicate likelihood of a general psychiatric disorder (Goldberg & Williams, 1988). The GHQ-12 has good validity and sensitivity in general populations (Goldberg et al., 1997). Where the GHQ-12 score was missing in the most recent observation, the mean GHQ-12 score was calculated where two or more previous observations were available for the respondent.

History of mental health diagnosis. UKHLS asks respondents about history of diagnosed clinical depression in all waves and whether they have been diagnosed (by a doctor or other health professional) with an emotional, nervous or psychiatric problem or clinical depression from wave 10 (2019–2022). Respondents who indicated history of a diagnosed mental health in any wave were treated as having received a mental health diagnosis.

Mental health status. A mental health status variable with three categories was computed based on GHQ-12 categories and history of diagnosis.

1. No treatment need: No evidence of psychological distress (GHQ-12 score of between 0–3) and no history of mental health diagnosis.
2. Undiagnosed mental distress: Evidence of psychological distress (GHQ-12 score of ≥ 4) and no history of mental health diagnosis.
3. Diagnosed distress: Evidence of psychological distress (GHQ-12 score ≥ 4) and reported history of mental health diagnosis.

The undiagnosed mental distress category is used as a proxy for identifying mental health care inequalities and is the focus of this analysis.

Number of protected characteristics. An “at-risk characteristic” (ARC) variable was generated to indicate the number of “at-risk” protected characteristics respondents embodied. Existing evidence was used to identify which category within each protected characteristic was considered “at risk.” Previous analysis indicates that in terms of unmet mental health need, females, younger people, people identifying as LGB, people from minority ethnic backgrounds, single people, people with long-term disability and people with no religious affiliation are at greater risk of unmet mental health need (Wicks et al., 2024). These characteristics were therefore selected as the “at-risk” category. However, the analysis was separated by sex for analysis to provide a more nuanced examination of all other protected characteristics. Respondents were therefore assessed on six protected characteristics; age, marriage/civil partnership status, sexual orientation, ethnicity, religion, and disability, with one point given for each “at-risk” characteristic. The number of people with six protected characteristics was $n=3$ (males) and $n=7$ (females). Given this very low number, categories five and six were combined

into a category of 5+. This resulted in six ARC categories (0, 1, 2, 3, 4, 5+).

To assist with interpretation of findings, the ARC categories were examined descriptively in terms of which protected characteristics feature most in each of the categories 0–5+. Therefore, the number of occurrences of each “at-risk” characteristic within each ARC category was summed and converted to a percentage (e.g. 22% of respondents with one protected characteristic reported living with a disability). Data was tabulated and visualised.

Ethical approval

UKHLS has ethical approval from the University of Essex Ethics Committee. Additional ethical approval was not required for the secondary data analysis conducted in this study.

Statistical analysis

Analysis was conducted using Stata v18 (StataCorp, 2023). To address aim 1, the ARC variable was regressed onto the Likert GHQ-12 (continuous) score using linear regression (model 1). Post-estimation margins adjusted using the Bonferroni correction were generated to test for statistical significance between each ARC category. To address aim 2, the ARC variable was regressed onto the mental health status variable using multinomial regression (model 2). The “no treatment need” mental health status was used as the reference category. Relative Risk Ratios (RRR) and 95% confidence intervals (95% CI) and predicted probabilities were generated and reported.

Statistical significance was determined via 95% confidence intervals which did not cross zero. To enable population level inference, the statistical analyses were weighted using the cross-sectional weights provided by UKHLS.

Results

Sample characteristics

The sample was broadly representative of the UK’s general population (Office for National Statistics Census Division; National Records of Scotland Northern Ireland Statistics and Research Agency (NISRA), 2023). Women (55.9%), heterosexual/straight people (95.8%), people who are married/in a civil partnership (53.9%), from a White British background (86.9%), with no religious affiliation (56.4%) and people living with a disability (34.9%) were over-represented in the sample (model 1) compared with figures from the UK’s 2021 Census (Office for National Statistics Census Division; National Records of Scotland Northern Ireland Statistics and Research Agency (NISRA), 2023) (Table 1). Approximately, two-thirds of the sample embodied one or two protected characteristics (excluding gender). Nearly 20% of the sample were living with undiagnosed mental distress, with a greater proportion of women (21.9%) than men (14.8%) categorised as experiencing undiagnosed mental distress.

Protected characteristics and mental distress

The ARC variable was regressed onto the Likert GHQ-12 score as a continuous outcome variable, with “zero” protected characteristics set as the reference category. The analysis was split by gender and the UKHLS cross-sectional weights applied.

The results in Table 2 show that for men, having one ARC is not associated with any additional risk of mental distress relative to having zero ARCs. However, from two ARCs onwards, the risk of mental distress grows exponentially with the addition of each ARC. Compared to men with no ARCs, men with two ARCs are predicted to have a GHQ-12 score 1.7 points higher. The largest increase in risk is between 4 and 5+ ARCs where the risk nearly doubles from a GHQ score 3.8 points higher compared to men with no ARCs to 7.4 points higher. Post-estimation margins reveal significant increases in GHQ-12 scores with each additional ARC (Supplementary Table S1).

Table 1. Sample descriptive statistics models 1 and 2.

	Model 1 male (n=12,608, 44.1%)	Model 1 female (n=15,880, 55.9%)	Model 2 male (n=11,980, 44.1%)	Model 2 female (n=15,180, 55.9%)
Age Groups (years)				
16–24*	1,303 (10.3)	1,669 (10.5)	833 (7.0)	1,086 (7.2)
25–34	1,431 (11.4)	1,931 (12.2)	1,372 (11.5)	1,875 (12.4)
35–44	1,707 (13.5)	2,407 (15.2)	1,680 (14.0)	2,386 (15.7)
45–54	2,336 (18.5)	2,888 (18.2)	2,305 (19.2)	2,877 (19.0)
55–64	2,332 (18.5)	2,857 (18.0)	2,311 (19.3)	2,842 (18.7)
65–74	2,047 (16.2)	2,460 (15.5)	2,033 (17.0)	2,451 (16.2)
75+	1,452 (11.5)	1,668 (10.5)	1,446 (12.1)	1,663 (11.0)
Marital status				
Married / civil partnership	7,359 (58.4)	8,003 (50.4)	7,263 (60.6)	7,931 (52.2)
Not married / civil partnership*	5,249 (41.6)	7,877 (49.6)	4,717 (39.4)	7,249 (47.8)
Sexual orientation				
Heterosexual	12,102 (96.0)	15,199 (95.7)	11,505 (96.0)	14,608 (96.2)
LGB*	506 (4.0)	681 (4.3)	475 (4.0)	572 (3.8)
Religious affiliation				
No religion*	7,676 (60.9)	8,385 (52.8)	7,281 (60.8)	7,947 (53.4)
Dominant religion	4,364 (34.6)	6,684 (42.1)	4,179 (34.9)	6,465 (42.6)
Minority religion*	568 (4.5)	811 (5.1)	520 (4.3)	768 (5.1)
Ethnicity				
White British	11,015 (87.4)	13,746 (86.6)	10,547 (88.0)	13,225 (87.1)
Diverse ethnic background*	1,593 (12.6)	2,134 (13.4)	1,433 (12.0)	1,955 (12.9)
Disability				
No disability	4,206 (33.4)	5,737 (36.17)	7,867 (65.7)	9,580 (63.1)
Living with a disability*	8,402 (66.69)	10,143 (63.9)	4,113 (34.3)	5,600 (36.9)
Annual income (£) Mean (SD)	2,016 (1,845)	1,478 (1,293)	2,074 (1,830)	1,512 (1,303)
At-Risk Characteristics				
0	1,449 (11.5)	1,999 (12.6)	1436 (12.0)	1985 (13.1)
1	4,472 (35.51)	5,055 (31.8)	4406 (36.8)	5014 (33.0)
2	4,015 (31.8)	5,165 (32.5)	3895 (32.5)	5068 (33.4)
3	2,146 (17.0)	2,860 (18.0)	1839 (15.4)	2510 (16.5)
4	471 (3.7)	683 (4.3)	363 (3.0)	522 (3.4)
5+	55 (0.4)	118 (0.7)	41 (0.3)	81 (0.5)
Mental Health Status				
No treatment need	9,616 (76.3)	10,584 (66.7)	9,616 (80.3)	10,584 (69.7)
Undiagnosed mental distress	1,861 (14.8)	3,474 (21.9)	1,861 (15.5)	3,474 (22.9)
Diagnosis received	503 (4.0)	1,122 (7.1)	503 (4.2)	1,122 (7.4)

Note: *Indicates at-risk group, model 1 = linear regression, model 2 = multinomial regression.

Table 2. Regression of male respondents GHQ score on ARC score.

ARC	Coefficient	Robust std. error	t value	95% confidence interval
1	0.84	0.16	5.44	0.54, 1.14
2	1.71	0.17	10.19	1.38, 2.04
3	2.80	0.21	13.23	2.38, 3.21
4	3.76	0.49	7.69	2.80, 4.72
5+	7.38	1.54	4.79	4.36, 10.40

Note: Reference category = 0 "at-risk" protected characteristics, ARC = at-risk category.

Table 3. Regression of female respondents GHQ score on ARC score.

ARC	Coefficient	Robust std. error	t value	95% confidence interval
1	0.93	0.16	6.02	0.63, 1.23
2	1.96	0.16	12.12	1.64, 2.27
3	3.20	0.21	15.51	2.80, 3.61
4	5.12	0.44	11.72	4.26, 5.98
5+	6.19	1.07	5.82	4.11, 8.28

Note: Reference category = 0 "at-risk" protected characteristics, ARC = At-Risk Category.

The results in Table 3 show that women with one ARC are also at no more risk than women with zero ARCs. From two ARCs onwards, women also experience an increase in mental distress with additional ARCs, but with a slightly slower rate of increase than men. Compared with women with no ARCs, women with two ARCs are predicted to have a GHQ-12 score 2.0 points higher. The biggest increase in risk occurs between three ARCs (risk is 3.2 times higher than no ARCs) and four ARCs (risk is 5.1 times higher than no ARCs). Women with five+ ARCs are predicted to have a

GHQ-12 score 6.2 points higher than women with no ARCs. Post-estimation margins reveal significant increases in GHQ-12 scores with each additional ARC (Supplementary Table S2).

Sample composition and mental distress

The largest rise in men’s predicted GHQ scores was observed between 4 and 5+ ARCs (Table 2). Figure 1 shows the composition of men in the sample by category of ARCs. Between 4 and 5+ ARCs, sharp increases are observed in the percentage of men who identify as LGB (increase of 35%), living with a disability (increase of 32%) and aged 16–24 years (increase of 26%). This suggests that as the sample begins to feature more men who are LGB, aged 16–24 or living with a disability, the risk of mental distress is considerably increased, compared to when the sample featured fewer men with these characteristics.

The largest rise in women’s predicted GHQ-12 scores (Table 3) was observed in the move from three to four ARCs. Figure 2 shows the composition of women in the sample by category of ARCs. Between three and four ARCs, sharp increases can be observed in the percentage of women aged 16–24 (increase of 33%), LGB (increase of 30%) or from a minority ethnic group (increase of 20%). This suggests that as the sample begins to feature more women who are LGB, aged 16–24 or from an ethnic minority group, the risk of mental distress is considerably increased, compared to when the sample featured fewer women with these characteristics. As risk increases further for women between 4 and 5+ ARCs, women living with a disability also begin to feature more in the sample composition.

Protected characteristics and risk of undiagnosed mental distress

Multinomial regression was conducted to investigate whether ARC category was associated with risk of experiencing undiagnosed mental distress (a GHQ-12 score of ≥ 4 and no history of a mental health diagnosis). The predictor variable (ARC category) was regressed onto the mental health status categorical variable. The sample was grouped by gender for analysis.

The results shown in Table 4 and Supplementary Table S3 reveal an additive risk of undiagnosed mental distress for men as the number of ARCs increased. Men with one ARC experienced 1.5 times the risk of undiagnosed mental distress compared with men with no ARCs (RRR = 1.52, 95% CI = 1.19, 1.94). Risk more than doubled between 4 and to 5+ ARCs (RRR = 3.60, 95% CI = 2.44, 5.30, RRR = 8.84, 95% CI = 3.29, 23.79).

The results shown in Table 5 and Supplementary Table S4 reveal an additive risk of undiagnosed mental distress for women from one ARC up to four ARCs (RRR = 1.31, 95% CI = 1.11, 1.54; RRR = 4.03, 95% CI = 3.00, 5.41).

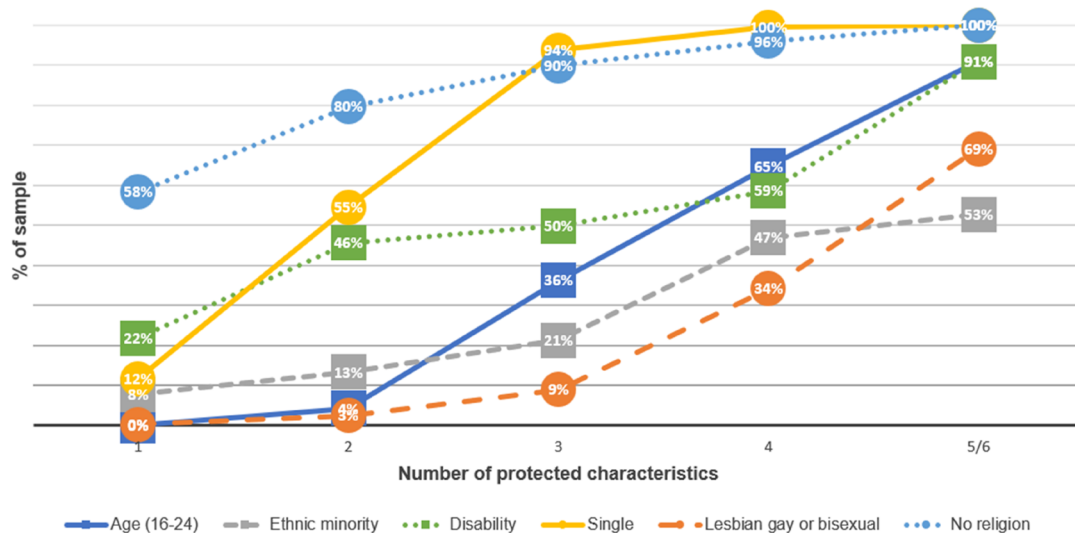


Figure 1. Sample composition of men by number of “at-risk” protected characteristics.

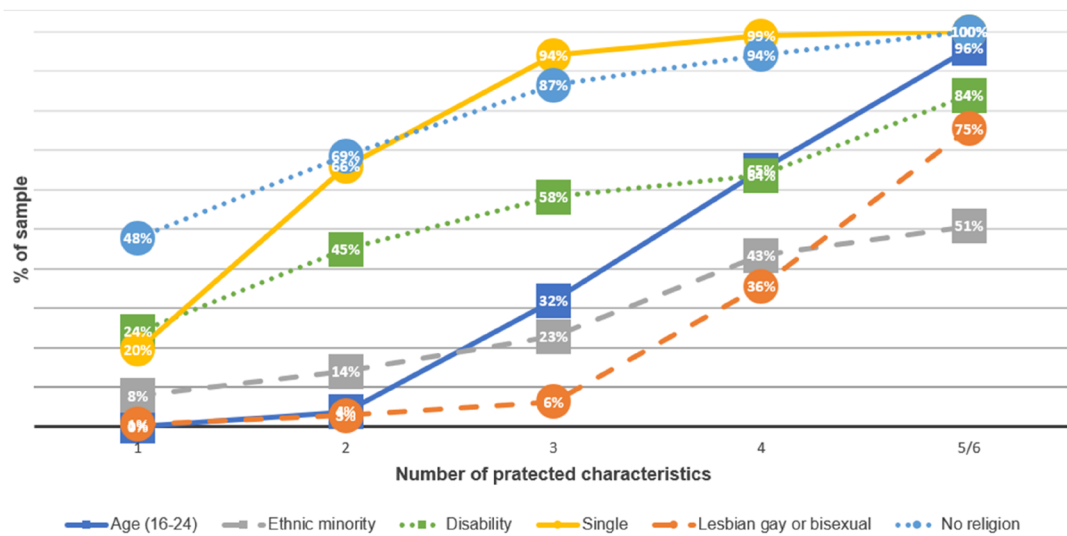


Figure 2. Sample composition of women by number of “at-risk” protected characteristics.

Table 4. Multinomial regression of male respondents’ mental health status on ARC category.

ARC	Undiagnosed distress			Diagnosis received		
	RRR	SE	95% CI	RRR	SE	95% CI
1	1.52	0.19	1.19, 1.94	1.17	0.28	0.73, 1.89
2	2.15	0.27	1.69, 2.75	2.86	0.66	1.82, 4.51
3	3.50	0.46	2.70, 4.54	5.49	1.33	3.42, 8.83
4	3.60	0.71	2.44, 5.30	8.09	2.41	4.52, 14.50
5+	8.84	4.46	3.29, 23.79	10.96	7.56	2.83, 42.37

Note: Reference category = no treatment need; ARC = At-Risk Category, RRR = relative risk ratio; SE = Standard Error, 95% CI = 95% confidence interval.

Table 5. Multinomial regression of female respondents’ mental health status on protected characteristics score.

ARC	Undiagnosed mental distress			Diagnosis received		
	RRR	SE	95% CI	RRR	SE	95% CI
1	1.31	0.11	1.11, 1.54	2.16	0.39	1.51, 3.09
2	1.96	0.16	1.67, 2.30	3.33	0.59	2.35, 4.72
3	2.57	0.24	2.14, 3.08	6.85	1.25	4.80, 9.79
4	4.03	0.60	3.00, 5.41	8.83	2.11	5.53, 14.10
5+	3.55	1.26	1.77, 7.13	15.68	6.52	6.94, 35.40

Note: Reference category = no treatment need; ARC = At-Risk Category, RRR = Relative Risk Ratio; SE = Standard Error, 95% CI = 95% confidence interval.

Sample composition and risk of undiagnosed mental distress

As noted, risk of undiagnosed mental distress more than doubled for men between 4 and 5+ ARCs (from 3.6 times higher to 8.8 times higher) (Table 4). Figure 3 shows the composition of men in the undiagnosed mental distress category by number of ARCs. Between 4 and 5+ ARCs, steep increases are observed in the percentage of men aged 16–24 years (increase of 39%), living with a disability (increase of 28%) or identifying as LGB (increase of 27%). This suggests that as the sample begins to feature more men who are LGB, aged 16–24 or living with a disability, the risk of undiagnosed mental distress is considerably increased, compared to when the sample featured fewer men with these characteristics.

As noted, the largest increase in risk of undiagnosed mental distress for women occurred between three and four ARCs (from 2.6 times higher to 4.0 times higher) (Table 5). Figure 4 shows the composition of females in the undiagnosed mental distress category by number ARCs. Between three and four ARCs, steep increases are observed for women aged 16–24 (increase of 45%) and LGB (increase of 28%). This suggests that as the sample begins to feature more women who are LGB or aged 16–24, the risk of undiagnosed mental distress is considerably increased, compared to when the

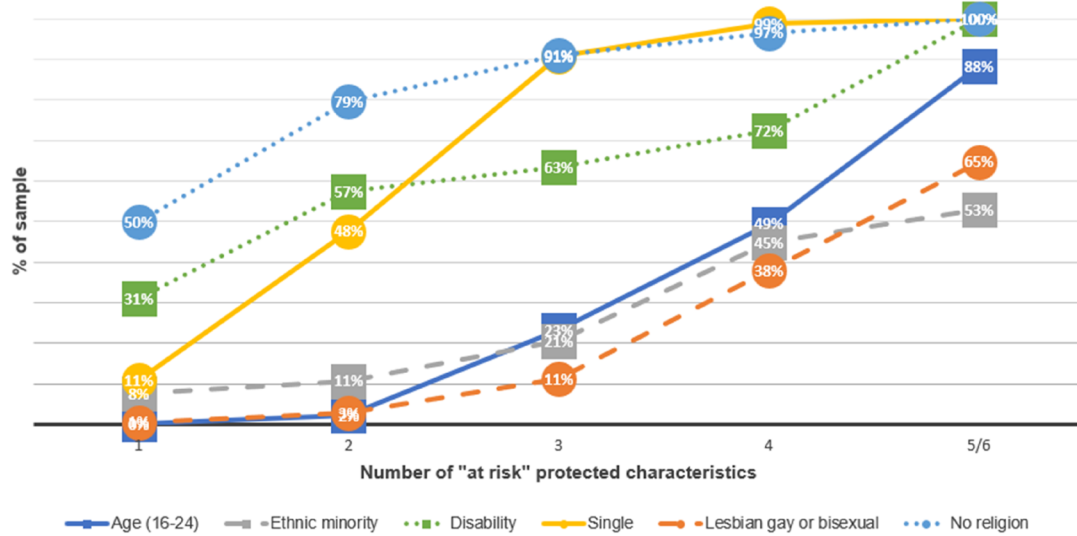


Figure 3. Sample composition of men with undiagnosed mental distress by number of “at risk” protected characteristics.

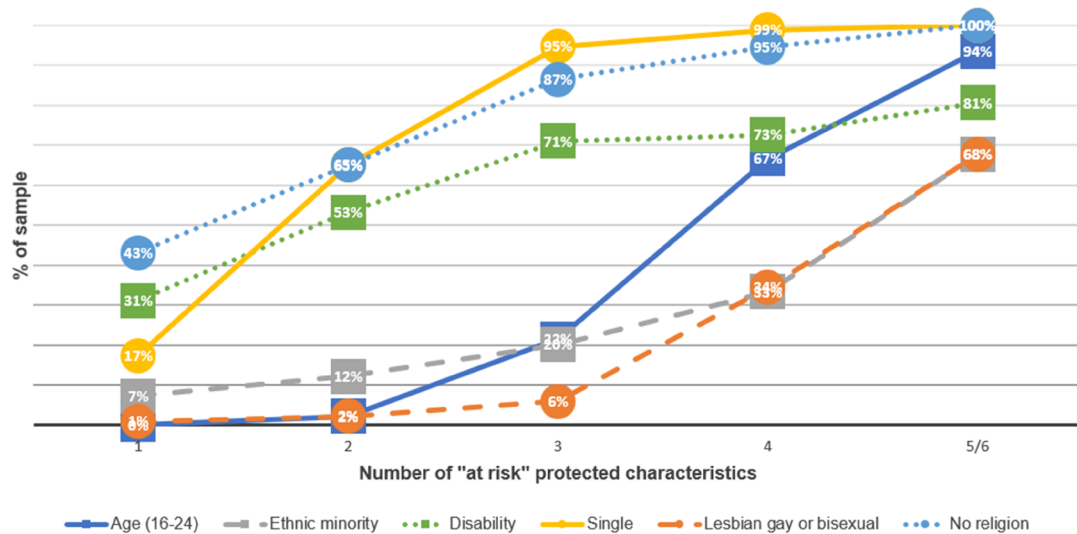


Figure 4. Sample composition of women with undiagnosed mental distress by number of “at-risk” protected characteristics.

sample featured fewer women with these characteristics. Risk of undiagnosed mental distress was shown to decrease in women with 5+ ARCs, compared to risk in females with four ARCs. Between 4 and 5+ ARCs, the steepest increases can be observed in women from a minority ethnic group (34%), LGB (33%) and aged 16–24 years. This could suggest that coming from an ethnic minority group has a role in reducing the risk of undiagnosed mental distress in women (i.e. the level of risk is more strongly influenced by age and sexual orientation than other protected characteristics).

Robustness of estimates

To investigate the robustness of model estimates, each model was repeated with highest educational or school qualification obtained and economic activity as control variables. These variables were selected because previous analyses found that they had a small influence on the size of the effect when examining the risk of undiagnosed distress (Wicks et al., 2024). Highest educational attainment

and economic activity had fractional impact on model estimates (Supplementary Tables S5-S8) supporting the robustness of the uncontrolled model estimates.

In addition, to investigate whether combining respondents with five and six ARCs into one category might be masking important differences between the groups, we re-ran the analyses with respondents with six ARCs omitted. The results were not significantly different. The confidence intervals still overlapped and some reduction in standard error was observed.

Discussion

This study set out to examine inequalities in levels of mental distress and in accessing mental health care, using undiagnosed mental distress as a proxy indicator of a “treatment gap,” i.e. an unmet mental health care need, given that diagnosis is understood as a key step towards NHS treatment (Bogdanova et al., 2022). The UK sample was categorised according to protected characteristics defined by the UK Equality Act. The analysis examined the role of cumulative risk with increasing numbers of “at-risk” protected characteristics for both mental distress and access to mental health care.

Findings indicate that for both men and women, having one “at-risk” characteristic does not on its own lead to increased risk of experiencing mental distress. Coupled with this finding is the observation that in the sample of people with only one ARC, there are almost no young adults or LGB people. Risk of experiencing mental distress increases with the accumulation of two or more ARCs for both men and women. This is particularly the case where the “at-risk” characteristics include more young, disabled and/or gay or bisexual men; and where the “at-risk” characteristics include more young, ethnic minority and/or lesbian or bisexual women. This suggests that disability when combined with other characteristics plays a bigger role in men’s risk of mental distress, while ethnic minority status when in combination with other characteristics plays a bigger role for women’s risk of mental distress.

In terms of undiagnosed mental distress, having one ARC is associated with a modest increase in risk for both men and women (1.5 times and 1.3 times greater than men and women with no ARCs). The risk increases with accumulating “at-risk” protected characteristics. For men, the sharpest increase in risk occurs when there are 5+ ARCs (8.8 times the risk of men with no ARCs). This sharp increase occurs when an increase in the proportion of gay and bisexual men, young men, and men living with a disability is also observed in the sample. For women, the sharpest increase in risk (rising to 4.0 times the risk of no ARCs) occurs when four ARCs are present. This co-occurs when a steep increase in the proportion of lesbian or bisexual women and young women is observed in the sample. However, when the proportion of ethnic minority women then rises sharply where five ARCs are present, the risk of undiagnosed distress among women falls to 3.6 times the risk of women with no ARCs. The highest point of risk for women (4.0) is overall much less than the highest point of risk for men (8.8). With the exception of ethnic minority women, the findings suggest that greatest inequity of access to care occurs for groups who also experience greatest inequality in experience of mental distress, indicating a double disadvantage for these groups.

Whilst the observed sample compositions do not provide definitive evidence that specific characteristics are causing the increase in risk of both mental distress and undiagnosed mental distress, these observations can be considered alongside previous evidence that lesbian, gay and bisexual populations and people living with a disability are, taken independently, at greatest risk of having an unmet mental health need and that 16–24 year olds are the most disadvantaged age group (Wicks et al., 2024). Whilst this previous analysis of independent protected characteristics found women to be at greater risk than men, the present analysis has separated men and women and identified more nuanced findings in relation to intersectional experiences. Specifically, whilst men and women experience most disadvantage when they are 16–24 and identify as lesbian, gay or bisexual, men appear to experience more unequal access to care when they are also living with a disability. Although the previous analysis found that independently, women were at greater risk compared to men, the present analysis suggests that when men have accumulating “at-risk” characteristics, this appears to create much starker disadvantages in access to care relative to other men with no at-risk characteristics.

An underlying assumption in the present analysis was that undiagnosed mental distress is an indicator of unequal access to care, since to access NHS mental health care, the process often begins with (or includes) a diagnosis, whether from a GP, leading to management by the GP, or within other NHS services such as NHS Talking Therapies or secondary care. Whilst a significant proportion of referrals to NHS Talking Therapies are self-referrals, those assessed and meeting the criteria would receive a diagnosis within the service. Some people with “undiagnosed distress” may have found help through non-NHS community support without ever receiving a diagnosis. However, national data suggests that the proportion of people showing clinical levels of mental distress without a diagnosis is a very similar proportion to those not receiving treatment, supporting the idea that undiagnosed distress is likely to reflect unmet treatment need in most cases (Liubertiene et al., 2025). Below, we also consider some alternative reasons for a person experiencing undiagnosed mental distress.

Supporting the finding that young adults and LGB groups appear to be driving the increased risk for men and women, previous research has noted that over 30% of university students who suspected they had a mental health issue did not seek support for this (Cage et al., 2020). Similarly, research found 35% of young people did not seek support for an emotional or mental health difficulty (Keziban & Barbara, 2016). Young LGBTQ+ people are least likely to access mental health care in spite of experiencing higher rates of mental distress and barriers to seeking help include homophobia, fear of judgement, and lack of staff awareness of different sexual and gender identities (Pattinson et al., 2021). The reasons for young people more generally not accessing mental health care includes stigma, a preference for alternative forms of support, difficulties identifying or expressing problems, and inaccessibility of support (Cage et al., 2020; Keziban & Barbara, 2016). The dismantling of UK youth services over the past decade has dramatically reduced access to mental health support (Davies, 2018). Young people who do seek support are subjected to high access thresholds to services and rejected referrals, while those who are accepted are placed on long waiting lists (Health and Social Care Committee, 2021). Negative experiences due to deficits in staff knowledge, competence and allocated support time have been reported by young people receiving support (Holding et al., 2022). Online support, which increased during the coronavirus pandemic, can be experienced as an invasion of place of comfort and safety, and negatively affect the therapeutic relationship.

In relation to individuals recognising their own needs, a survey of college students in the USA found that failing to recognise the need for treatment was the leading cause of not seeking support (Thorncroft et al., 2017). Inability to identify one’s own mental distress is therefore widely considered to be a key factor preventing people seeking support and it is possible this may be more likely to be the case for young and/or LGB people, the latter potentially more likely to attribute their distress to their experiences of sexuality or the anticipated discrimination or homophobia. Young people and LGB groups may also be less aware of support that is available to them. For example, a survey by the National Union of Students found that students were often unaware of the support they could access for their distress (NUS-USI, 2017).

Stigma is understood to be a key factor in undiagnosed mental distress, particularly given that stigma can apply both to mental illness and to some protected characteristics, e.g. sexual orientation and disability. It has been suggested that people are less likely to seek help due to self-stigma associated with asking for help, rather than the stigma associated with having a mental illness and this may particularly apply to men who may face additional stigma relating to sexuality or disability (Tucker et al., 2013). Self-stigma among UK students was found to predict whether someone would access professional help (Cage et al., 2020). However, self-stigma does not necessarily predict whether someone asks for help from informal sources, such that students may be more likely to speak about their distress with friends and family than service providers. Anti-stigma campaigns over recent decades appear to have failed to address stigma as a barrier to mental health care and this may be related to the strong link between anti-stigma campaigns, medical treatments and a disease narrative of mental illness (Oute et al., 2015; Speed & Taggart, 2019). Not only are people often concerned about seeking help in case they are prescribed medicines, the medical framing of psychological distress may paradoxically lead to an increased public perception of mentally ill people as being intrinsically damaged and fundamentally irrational (Britten et al., 2010). Moreover, there is some evidence

that people can feel pressured into taking psychotropic medications from medical professionals and friends and family (Rogers et al., 1998). Therefore, people may feel reluctant to seek support so as not to incur the pressure to take medication.

In spite of this medicalised perception of mental illness which may stem in part from anti-stigma campaigns of recent decades, most UK national guidelines now prioritise first-line psychological interventions, including guidelines for young people and children which warn against medication except in very severe cases (NIHR Evidence, 2022). Those without a diagnosis (those not accessing care) may therefore be missing out on potentially useful psychological support from mental health services. Undiagnosed mental distress can leave individuals suffering without support and can also affect an individual's capacity to support themselves financially. Murphy (2022) report that 73% of young people economically inactive due to anxiety or depression remain inactive for at least two years. The numbers of children and teenagers prescribed antidepressants has been rising year on year, currently at around half a million prescriptions (NHS Business Service Authority, 2023) raising questions about whether mental health care for young people is in line with evidence-based guidelines.

The NHS Long Term Plan includes addressing mental health in young people as a national priority but access to psychological support is still inadequate (NIHR Evidence, 2022). Meanwhile it may be important for UK mental health care providers to focus public messaging on raising awareness particularly among youth and LGB populations about the evidence base for psychological support and to increase self-referral routes to NHS Talking Therapies which could temper their realistic fears of being prescribed medication. Mental Health Support Teams in UK schools are a recent government initiative to increase children and young people's access to support for mental health and provide access to psychological therapies in the school setting, which avoids the risk of GP visits leading to antidepressant prescription. This may help embed assumptions in school aged children about ways to address emotional support needs and prevent them assuming as they grow into young adults that the only care available is through a medical route. Nevertheless, there remains a cohort of young adults who did not have access to this and who may have been left behind by psychological services. It seems important for youth services to do more to make their services accessible especially to young LGB people and pro-actively address barriers relating to self-stigma and non-recognition or mis-attribution of emotional difficulties.

Our findings suggest a particularly extreme disadvantage faced by young LGB men with a disability. It is not possible to know what sorts of disability respondents were experiencing since the question wording is very general in line with the UK Equality Act: "Do you have any long-standing physical or mental impairment, illness or disability? By 'long-standing' I mean anything that has troubled you over a period of at least 12 months or that is likely to trouble you over a period of at least 12 months." Given the sample is by definition "undiagnosed" it is likely the positive responses to this question in this sample refer to physical impairments or perhaps neurodiversity or learning disabilities. Nevertheless, given the very high risk associated with young disabled gay or bisexual men, it is important for UK services to consider how to identify ways to better support this group. It is possible that symptoms of mental distress in this group may be misinterpreted or expressed in ways which means mental health support is not offered; or the high levels of self-stigma experienced in this group may prevent them asking for help. It is likely to be a small minority of the population with this combination of risk, yet they are facing extreme disadvantage. Further research could help to identify any more specific barriers to accessing care among this group.

The 2014 APMS identified Black women as having a higher prevalence of CMHC than White women (Liubertiene et al. 2025); however, the most recent APMS findings did not find differences between ethnic groups (McManus et al., 2016). The present analysis suggests that while coming from an ethnic minority group may be associated with increased risk of mental distress, it does not appear to be driving risk of undiagnosed distress. This does not mean ethnic minority women experiencing mental distress are necessarily receiving equal care, since they may have received a diagnosis at a point of crisis in the absence of earlier forms of support such as NHS Talking Therapies support. Some literature suggests ethnic minority groups are less likely to self-refer to NHS Talking Therapy services

and less likely to receive a psychological assessment (Harwood et al., 2023). Therefore, diagnoses received by ethnic minority groups may be more likely to have been given by secondary or tertiary services in response to more severe presentations. Further research would therefore be needed to establish to what extent ethnic minority women who are diagnosed are accessing appropriate first-line evidence-based care.

Conclusions

This is the first analysis of a representative sample of UK residents which examines inequalities in mental health and access to mental health care considering accumulation of protected characteristics and intersectional experiences. Findings suggest that young LGB men and women may experience the greatest disadvantage in relation to access to mental health care and that young gay or bisexual men with a disability experience extreme disadvantage relative to other men. The implications of these findings are that UK policies for health and social care, whilst already focused on addressing the youth mental health crisis, need to increase efforts and incorporate policies to tackle stigma and other barriers preventing young people accessing evidence-based psychological support, including young LGB groups. Services will need to have improved accessibility to these groups through increased diversity in public participation in service design, de-emphasising medical pathways to care and public information (co-designed with target groups) which highlights the availability of evidence-based psychological interventions for those target groups. Targeted services or interventions should be co-produced at local level ensuring they are suitable, accessible and effective for groups with an unmet treatment need. Further, all mental health service providers (including community-based services) should routinely collect standardised data on the protected characteristics of people accessing support to monitor access and continue to make accessibility improvements. It would also be important to directly address the over-prescription of psychotropic medication in these groups as highlighted by Public Health England 2019 and similar more recent reports which may be contributing to fear of at-risk and stigmatised groups seeking professional help for their mental health (Department of Health and Social Care, 2021; Taylor et al., 2019).

Strength and limitations

Given local authorities are increasingly responsible for commissioning non-NHS community-based mental health support, it may become harder to assess inequalities in access to care using diagnosis as a proxy for access to care. This is because non-NHS support and services may not always generate or record a diagnosis. It may be important therefore for surveys like UKHLS to include a question on ever having had professional support for a psychological difficulty. It is possible that with the expansion of different forms of mental health support across both NHS and social care and more third sector support in community settings, that there is already a shift away from diagnosis being linked to accessing care and this may limit the conclusions that can be drawn from the analyses.

Further research is required to explore the experiences of people living with undiagnosed mental distress and whether there are any trends in preference for non-NHS support without a diagnosis. With increasing commissioning of mental health support by local authorities with relatively unsystematic data capture across these local systems, it is unknown to what extent this layer of service provision is helping to address inequalities by providing more community-based preventive care addressing the wider determinants of mental health; or whether these services are also subject to inequalities in access. A deeper understanding of the undiagnosed mental distress group accessing local authority commissioned or voluntary and community sector mental health care is required to further explore ways to address inequalities in access to care.

Intersections are defined by combinations of privileged and marginalised identities and positions. Our analyses explored combinations of protected characteristics identified as “at-risk” in prior research. As such, this study provides an insight through a specific lens (the UK Equality Act) and does not explore how privileged identities intersect with “at-risk” protected characteristics to create mental

health inequalities. Previous research has considered other forms of disadvantage, in particular economic disadvantage and unemployment instead of or as well as identity-based demographics on which the legal concept of protected characteristics is based. The current analysis focuses only on identity-based demographics and does not consider other social and economic factors. Moreover, the study is primarily descriptive, is not designed to test causal hypotheses and we cannot discount residual confounding. It is unknown whether “at-risk” protected characteristics are weighted equally in their impact in mental health outcomes. More complex methodological approaches, such as Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA) approach would likely be appropriate to further investigate the relationship between undiagnosed distress and intersectional profiles based on protected characteristics.

Due to the survey data used, there is potential for both selection and self-report bias, e.g. some people may be more reluctant to report diagnoses in a survey context and some groups of people are less likely to engage in research. However, survey weights were applied during the analyses to ensure the sample was as representative as possible and to give greater confidence when generalising our inferences to the UK population.

Finally, because of the very small number of participants with 6 protected characteristics, it was not possible to look at the differential impact of 5 versus 6 at-risk characteristics separately. Therefore, the interpretation of the 5+ ARC group should be interpreted with caution and replicated with larger sample sizes where 5 ARCs and 6 ARCs can be separated.

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Data availability statement

The UKHLS data described in this article can be freely and openly accessed from the UK Data Service website: <https://www.understandingsociety.ac.uk/documentation/access-data>.

Data relating to sexual orientation is available via special licence application to the UK Data Service.

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