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RESEARCH ARTICLE

Life Changes during the First COVID-19 Lockdown and Mental Well-Being at Different Stages of the Life Course: Evidence from Five British Cohorts

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ABSTRACT

Objectives: The COVID-19 crisis significantly reshaped individuals' daily lives and work, potentially also affecting their mental health. This study examines changes in psychological stress, anxiety, and depression during the first lockdown amongst five British cohorts at different stages of the life course: older adolescence, early adulthood, mid-career, and later life. It investigates the correlation between self-reported stress and life changes across a range of domains including health; education and the move to home schooling; working patterns and furlough; and living arrangements and family life.

Methods: The study analyses data from 14,130 cohort members participating in the special COVID-19 surveys conducted in May 2020. These surveys are part of the ongoing 1946, 1958, 1970, and 2000-01 British birth cohorts, as well as the Next Steps cohort (born in 1989-90). Probit regression models assess the likelihood of increased stress among individuals reporting pandemic-related life changes compared to those who did not, across a range of different life domains. The study also examines the association between heightened stress and subsequent anxiety and depression.

Results: The research highlights the diverse challenges faced by individuals at different life stages during the early phase of the pandemic. Young people faced disrupted education, with many returning to the parental home; parents had to cope with the closure of schools and childcare services, dealing with young children at home; mid-career professionals also found themselves balancing work and family responsibilities; retirees faced cancelled medical appointments and disrupted home care services. All these challenges were associated with significantly increased reported stress among affected individuals; particularly in adolescence and young adulthood, where mental health outcomes were poorer than in older cohorts. Moreover, heightened stress substantially raised the risk of developing anxiety and depression.

Conclusions: The study affirms that individuals in various life stages faced exceptional challenges during the initial lockdown, adversely affecting mental well-being. Adolescents and young adults, experiencing more life changes but lacking coping resources, felt the disruption especially heavily. Going forward, given the potential health consequences of prolonged stress, anxiety, and depression, policymakers must consider these temporary challenges through a life course lens when designing appropriate interventions and support services.

1. Introduction

The COVID-19 crisis, and the measures implemented to curb to significantly curb the spread of the virus, reshaped individuals' daily lives and work. The UK government introduced the Coronavirus Job Retention Scheme on 1st March 2020 to retain and pay staff during lockdowns by furloughing employees¹, and on 23rd March 2020, the UK initiated an unprecedented lockdown, urging those who could work remotely to do so, shutting down schools, restaurants, and non-essential stores. Citizens were advised to stay at home and to minimize interactions with individuals beyond their households. This shift to remote work and learning, coupled with job losses for some, reduced social interactions, and increased isolation, is expected to have negative repercussions for mental well-being. This study examines changes in measures of psychological stress, anxiety, and depression during the first lockdown amongst five British cohorts at different stages of the life course; adolescence, early adulthood, mid-career, and later life. It investigates the correlation between self-reported stress and life changes across a range of domains, including health, education, the move to home schooling, working patterns and furlough, and living arrangements and family life.

Over the past two decades the life course perspective has become an indispensable tool for understanding population change, allowing analysts to separate out the influence of age, period and cohort effects², shedding light on the impact of pivotal moments on life transitions and the cumulative nature of life trajectories³⁻⁵. The COVID-19 pandemic may be thought of as representing one such pivotal 'period' moment. Given that the pandemic poses different levels, and types, of risk to people of different ages, examining the direct (i.e. health) and indirect (e.g. impact on work or education) effects of the pandemic on individuals, families, and populations benefits significantly from being viewed through a life course perspective⁶.

Within this theoretical framework, stress, defined by Hans Selye, is the body's response to demands for change⁷. Stressors, like trauma, major life events or daily hassles, trigger stress⁸. These situations often involve conflicts, increased demands, fear and time pressures. Persistent stressors turn into stress or distress when coping resources fall short⁹. While low-to-moderate stress can be beneficial, high levels can be harmful. The types of stressors and stress levels vary across life stages and social roles¹⁰, lending further weight to the relevance of the life course lens that can offer insights into the nuanced interplay between life course dynamics

and mental well-being during this unprecedented period.

The COVID-19 pandemic has disproportionately affected different age and sociodemographic groups through various mechanisms¹¹⁻¹². Older adults faced higher risks and were advised to stay home (shielding), while younger people and women experienced disproportionate employment losses and instability¹³. Research¹⁴ in the UK, examining psychological distress before and during the COVID-19 pandemic among adults, revealed persistent worsening of mental health during the pandemic, especially among women and those aged 25 to 44 years. COVID-19 related stressors, such as essential worker status, worry about COVID-19 infection, loss of employment, having young children at home, and living arrangements change, have been found to be linked with severe psychological distress, anxiety and post-traumatic stress^{6,15-24}.

This study adds to the literature by examining individuals across different life stages at the same point in time during the first phase of the COVID-19 pandemic. Taking a life course perspective and reflecting prior empirical studies, we hypothesize that individuals at different stages of the life course are likely to have encountered diverse challenges during the initial lockdown, leading to differential increases in stress across cohorts (H1). Given that stress, anxiety and depression share interconnected neural roots²⁵⁻²⁶, we then hypothesise that those individuals who experience increased stress during lockdown will also face a higher risk of anxiety or depression (H2).

2. Methods

2.1. PARTICIPANTS

This study uses data from the special COVID-19 web survey conducted in May 2020 with the participants of four nationally representative cohort studies which have been collecting data since childhood²⁷. These are: the Millennium Cohort Study (MCS), born in 2000–2001, followed since birth and now aged 19 years; Next Steps, born in 1989–1990, followed since adolescence and now aged 30 years; the 1970 British Cohort Study (BCS70) born in 1970, followed since birth and now age 50 years; the National Child Development Study (NCDS) born in 1958 and now aged 62 years; and the National Survey of Health and Development (NSHD) born in 1946 and now aged 74 years. The final analytical sample of 14,130 participants, of which the MCS contributes 2,265 respondents, Next Steps 1,682 respondents, BCS70 3,893 respondents, NCDS 4,692 respondents, and NSHD 15,98 respondents. All the descriptive results have

been weighted, applying combined weight (design weight x web survey non-response weight), such that the results are representative of the full cohort of that age. The derived weights considering design and non-response have been shown to be effective in restoring sample representativeness²⁸.

2.2. MEASURES

2.2.1. Outcome variables

The outcome variables in this analysis are perceived stress change, measured by the cohort members' self-reported change of stress they have been feeling since the COVID-19 outbreak. Where the cohort members reported 'more than before', the response was coded as 1, where it was reported as 'same, no change' or 'less than before', it was coded as 0. The single item of stress measure has been shown to have satisfactory content, criterion and construct validity for survey research²⁹. Yet, little is known about the measurement of self-reported stress changes, or stress changes before and after the crisis.

The other outcome variables are anxiety and depression, measured using the Patient Health Questionnaire-2 (PHQ-2) and Generalized Anxiety Disorder-2 (GAD-2) screening. Respondents were asked 'Over the last 2 weeks, how often have you been bothered by any of the following problems?' 1. Little interest or pleasure in doing things; 2. Feeling down, depressed, or hopeless; 3. Feeling nervous, anxious or on edge; 4. Not being able to stop or control worrying.' For each item, options range from 'not at all' (coded as 0), 'several days' (coded as 1), 'more than half the days' (coded as 2), and 'nearly every day' (coded as 3). Items 1 and 2 screen for depression, with a total sum score of 3 or more for these two items suggesting the strong possibility of clinical depression (binary: depression). Items 3 and 4 screen for anxiety, with a total sum score of 3 or more for these two items suggesting the strong possibility of clinical anxiety (binary: anxiety). Previous research shows good construct and criterion validity of the PHQ-2 and GAD-2³⁰⁻³¹.

2.2.2. Life change variables

A series of life change variables are created: (1) whether the participant had suspected or diagnosed COVID-19 (binary: yes), (2) whether the participant was a keyworker (binary: yes), (3) whether stop working including furloughed (binary: yes), (4) whether medical appointment cancelled (binary: yes), (5) household care unmet needs since the pandemic (no care needs, care needs unmet, more care needs and met), (6) whether childcare service use stopped (binary: yes), (7) whether learning activity changed (binary: yes), (8) whether

involved in home-schooling (binary: yes), (9) whether living arrangements changed (binary: yes), (10) interpersonal conflict since the pandemic (binary: more than before), (11) financial difficulty since the pandemic (binary: worse off). The number of life changes is measured as the sum of 11 listed life change events.

2.2.3. Covariates

In order to account for broad sociodemographic differences that could confound the association between life changes and stress, variables are included for sex (male, female), and cohort (MCS, Next Steps, BCS70, NCDS, and NSHD), multimorbidity (binary: any of two listed long-standing illnesses including cancer, cystic fibrosis, asthma, chronic obstructive pulmonary disease, wheezy bronchitis, diabetes, recurrent backaches, problems with hearing, high blood pressure, heart disease, depression or other emotional problems, obesity, chronic obstructive airways disease, infection, HIV/Immunodeficiency, conditions affecting the brain and nerves), whether at least one 0-4 years old child in the household (binary: yes), whether at least one 5-16 years old child in the household (binary: yes), overcrowded accommodation (binary: >1 person per room), and social class (higher managerial/professional, lower managerial/professional, intermediate, small employers, lower supervisory and technical, semi-routing, routing and not classifiable).

2.3. Analytical approach

Associations between life changes and perceived stress increase since the COVID-19 pandemic are investigated using multivariate probit regression analyses with robust standard errors using 'no change' as the reference group. As the control variables can be hypothesised to operate differently for individuals at different stages of the life course, statistical models are performed for all the cohorts together, with the cohort as a control variable, and then for each of the cohorts separately. Sensitivity analyses to test the robustness of the results include using the number of life changes instead of specific life change variables. Chi-square tests examine the association between increased stress and anxiety as well as depression.

3. Results

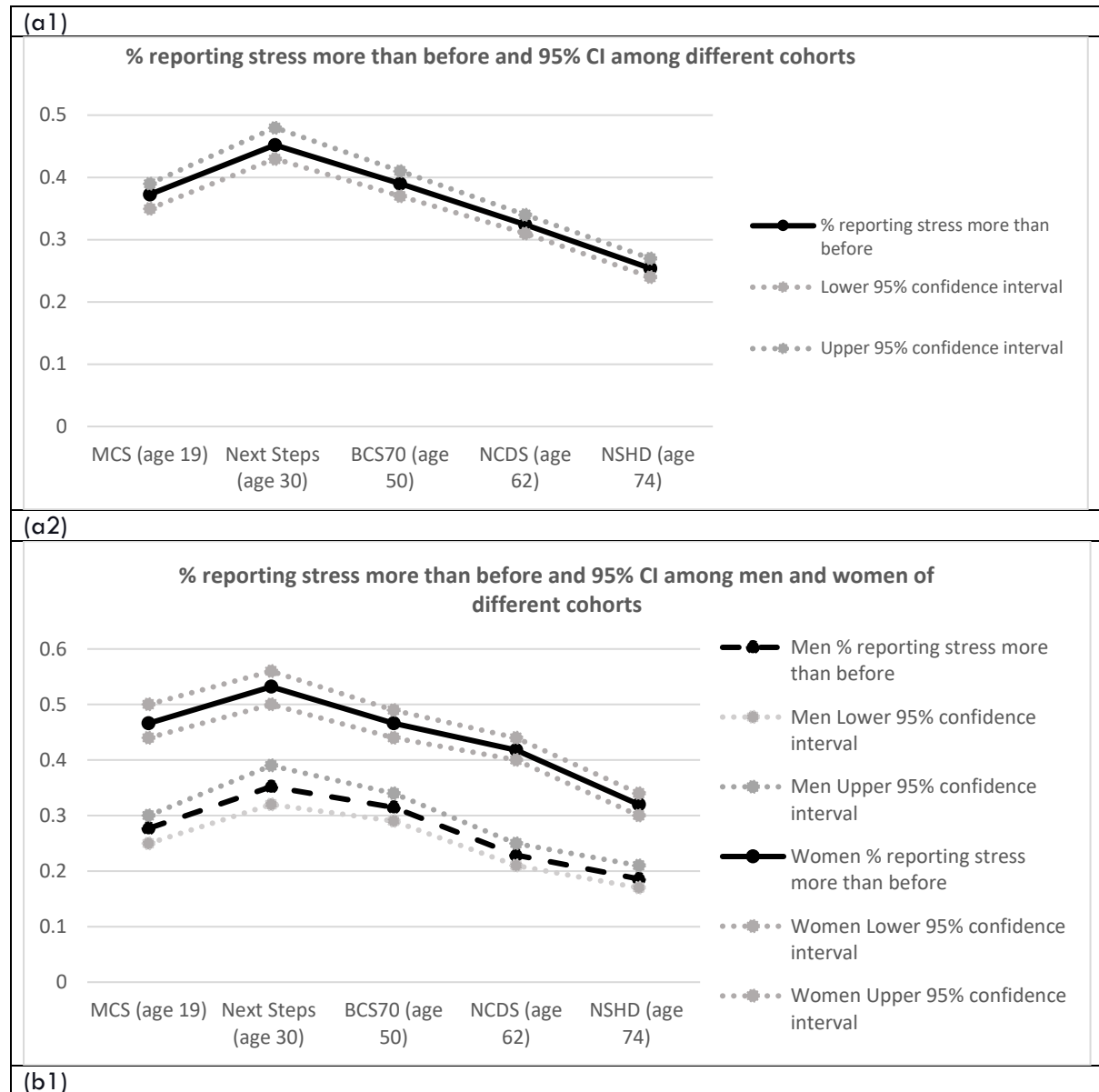
3.1 LEVELS OF INCREASED STRESS, ANXIETY AND DEPRESSION

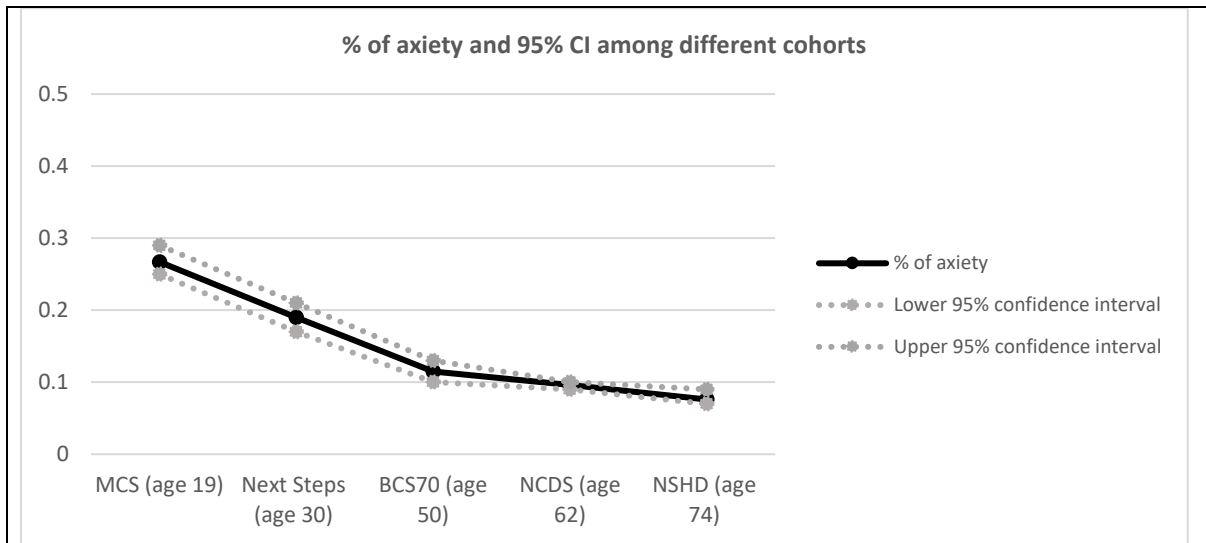
The data presented in Figure 1 indicate that 34.7% of all cohort members reported experiencing increased levels of stress since the onset of the COVID-19 pandemic. This varies across cohorts,

with the highest reported stress in Next Steps (born 1989-90) (45.2%), followed by BCS70 (born 1970) (39.0%), MCS (born 2000) (37.3%), NCDS (1958) (32.4%), and NSHD (1946) (25.4%). Furthermore, 13.2% of individuals exhibited clinical anxiety, with the highest prevalence in MCS (26.7%), followed by Next Steps (19.0%), BCS70 (11.5%), NCDS (9.6%), and NSHD (7.6%). Similarly, 13.0% of individuals displayed clinical depression, with the highest rates observed in MCS (28.7%), Next Steps

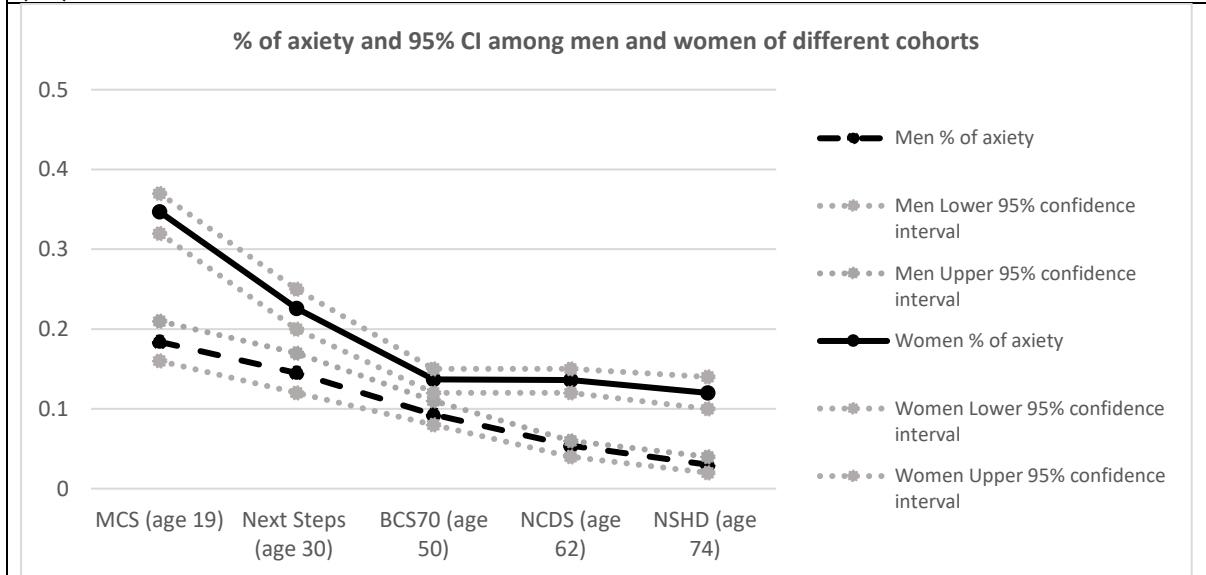
(17.4%), BCS70 (12.3%), NCDS (8.0%), and NSHD (7.4%). Notably, women consistently reported higher levels of stress, anxiety, and depression compared to men, and this pattern remained consistent across different cohorts. The results also revealed that respondents from cohorts at earlier life stages, such as adolescence and young adulthood (i.e. MCS and Next Steps), experienced a higher prevalence of increased stress, anxiety, and depression.

Figure 1. Prevalence (%) of reporting increased psychological stress, anxiety and depression among five British cohorts.

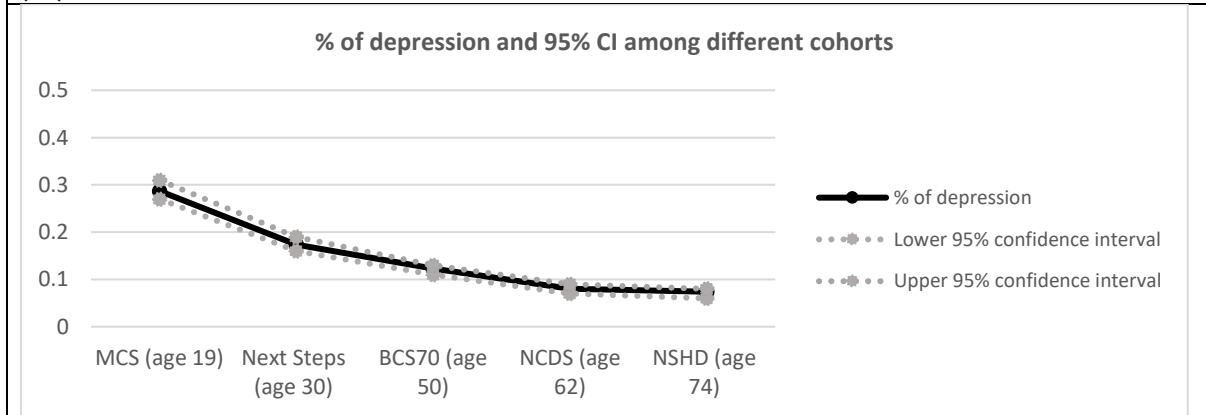




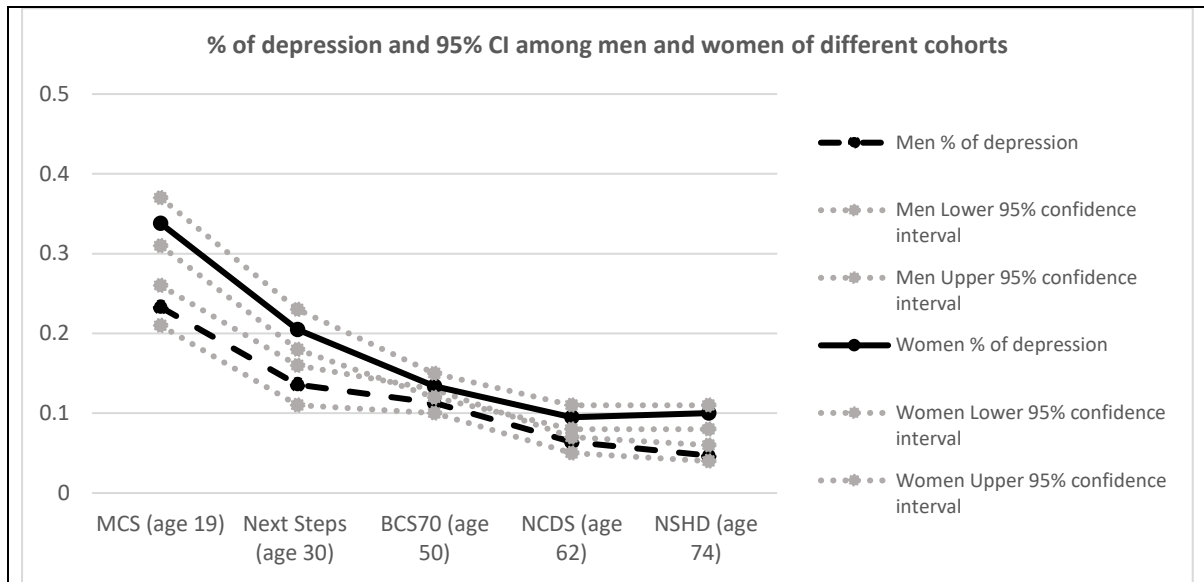
(b2)



(c1)



(c2)



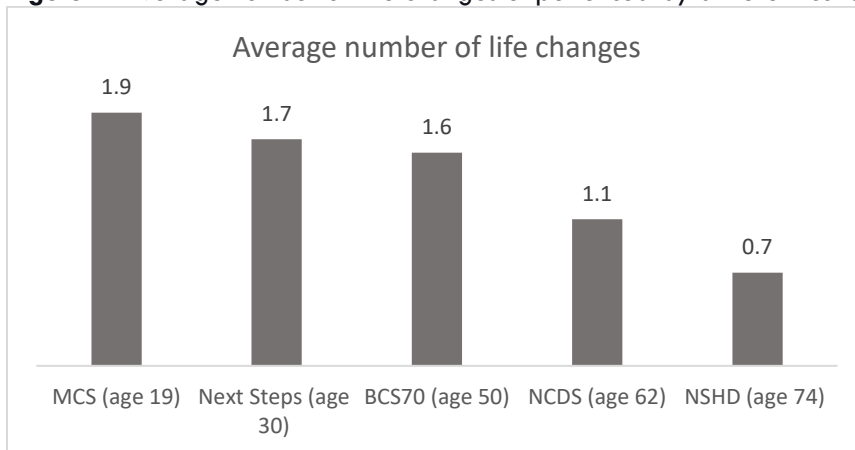
Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020).

3.2 LIFE CHANGES AND ITS ASSOCIATION WITH INCREASED STRESS

Among all respondents, 77.6% had experienced at least one life change during the first lockdown, with the mean number of life changes being 1.4. Those born in 2000 (MCS) experienced the highest average number of life changes with 1.9, followed by those born 1989-90 (Next Steps) 1.7, BCS70 1.6, NCDS 1.1 and NSHD 0.7 (Figure 2).

Table 1 sheds light on the diverse challenges faced by individuals in various life stages during the pandemic. Older adolescents coped with disrupted education and returning home, young adults managed halted childcare services and toddlers at home, mid-career professionals balanced work and family responsibilities, and retirees dealt with increased care needs and cancelled medical appointments.

Figure 2. Average number of life changes experienced by different cohorts.



Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020).

Table 1. Characteristics of the sample and life changes among five British cohorts.

	All cohorts n (%)	NSHD (age 74) n (%)	NCDS (age 62) n (%)	BCS70 (age 50) n (%)	Next Steps (age 30) n (%)	MCS (age 19) n (%)
Cohort						
NSHD	1598 (20.0)	-	-	-	-	-
NCDS	4692 (29.8)	-	-	-	-	-
BCS70	3893 (24.5)	-	-	-	-	-
Next Steps	1682 (10.8)	-	-	-	-	-
MCS	2265 (14.9)	-	-	-	-	-
Sex						
Men	5829 (49.2)	744 (49.2)	2230 (49.8)	1619 (50.4)	576 (44.5)	660 (49.2)

	All cohorts n (%)	NSHD (age 74) n (%)	NCDS (age 62) n (%)	BCS70 (age 50) n (%)	Next Steps (age 30) n (%)	MCS (age 19) n (%)
Women	8301 (50.8)	854 (50.8)	2462 (50.2)	2274 (49.6)	1106 (55.5)	1605 (50.8)
Had suspected or diagnosed COVID-19						
No	13160 (93.6)	1559 (97.8)	4425 (94.3)	3546 (90.9)	1504 (88.6)	2126 (94.7)
Yes	970 (6.4)	39 (2.2)	267 (5.7)	347 (9.1)	178 (11.4)	139 (5.3)
Being a keyworker						
No	11147 (81.8)	1585 (99.3)	3812 (81.7)	2533 (68.5)	1129 (67.4)	2088 (90.8)
Yes	2983 (18.2)	13 (0.7)	880 (18.3)	1360 (31.5)	553 (32.6)	177 (9.2)
Stopped working, including furloughed						
No	11191 (79.1)	1527 (96.3)	3623 (74.0)	2945 (74.5)	1259 (71.6)	1837 (79.1)
Yes	2939 (20.9)	71 (3.7)	1069 (26.0)	948 (25.5)	423 (28.4)	428 (20.9)
Medical appointment cancelled						
No	11987 (83.0)	1090 (68.1)	4000 (85.0)	3422 (86.5)	1470 (87.4)	2005 (89.9)
Yes	2143 (17.0)	508 (31.9)	692 (15.0)	471 (13.5)	212 (12.6)	260 (10.1)
Household care needs unmet since the pandemic						
No care needs	13613 (95.5)	1494 (92.5)	4528 (96.1)	3774 (96.1)	1636 (96.7)	2181 (96.6)
Needs unmet	241 (1.8)	31 (1.7)	78 (1.9)	67 (2.1)	20 (1.2)	45 (1.9)
More needs and met	276 (2.6)	73 (5.7)	86 (2.0)	52 (1.8)	26 (2.1)	39 (1.8)
Stopped childcare service use						
No	13854 (98.0)	1598 (100.0)	4687 (99.7)	3843 (98.9)	1465 (85.4)	2261 (99.8)
Yes	276 (2.0)	(-)	5 (0.3)	50 (1.1)	217 (14.5)	4 (0.2)
Learning activity changed						
No	12677 (91.4)	1598 (100.0)	4690 (100.0)	3885 (99.8)	1652 (98.3)	852 (44.0)
Yes	1453 (8.6)	(-)	2 (<0.1)	8 (0.2)	30 (1.7)	1413 (56.0)
Home-schooling						
No	12773 (91.3)	1585 (99.4)	4618 (97.9)	2911 (76.8)	1429 (81.0)	2230 (98.5)
Yes	1357 (8.7)	13 (0.6)	74 (2.1)	982 (23.2)	253 (19.0)	35 (1.5)
Living arrangement change because of COVID-19						
No	12163 (86.9)	1544 (96.9)	4132 (88.4)	3383 (85.7)	1443 (84.8)	1661 (74.2)
Yes	1967 (13.1)	54 (3.1)	560 (11.6)	510 (14.3)	239 (15.2)	604 (25.8)
Interpersonal conflict since the pandemic						
No change or less than before	12939 (92.0)	1543 (96.6)	4500 (95.6)	3612 (92.6)	1503 (89.1)	1781 (79.7)
More than before	1191 (8.0)	55 (3.4)	192 (4.4)	281 (7.4)	179 (10.9)	484 (20.3)
Financial difficulty since the pandemic						
About the same or better off	10096 (72.0)	1409 (90.4)	3257 (67.2)	2604 (64.5)	1173 (68.7)	1653 (71.8)
Worse off	4034 (28.0)	189 (9.6)	1435 (32.8)	1289 (35.5)	509 (31.3)	612 (28.2)

Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020). Weighted %, Unweighted N.

Table 2 shows the bivariate association between selected life changes/ challenges and increased psychological stress. It highlights the significant

impact of these challenges on individuals, as all selected life changes substantially increased reported stress among affected individuals.

Table 2. Bivariate relationship between specific life changes and increased psychological stress.

	Psychological stress		P-value
	No change or less than before	More than before	
Had suspected or diagnosed COVID-19			<0.001
No	65.8	34.2	
Yes	57.4	42.6	
Being a keyworker			<0.001
No	66.5	33.5	
Yes	59.9	40.1	
Stop working, including furloughed			0.010
No	65.8	34.2	
Yes	63.3	36.7	
Medical appointment cancelled			0.041
No	65.6	34.4	
Yes	63.5	36.5	
Household care needs unmet since the pandemic			<0.001
No care needs	66.2	33.8	
Needs unmet	51.1	48.9	
More needs and met	39.9	60.1	
Stopped childcare service use			<0.001
No	65.6	34.4	
Yes	51.4	48.6	
Learning activity change			0.028
No	65.5	34.5	
Yes	62.5	37.5	
Home-schooling			<0.001
No	66.1	33.9	
Yes	57.0	43.0	
Living arrangement change because of COVID-19			<0.001
No	67.1	32.9	
Yes	53.2	46.8	
Interpersonal conflict since the pandemic			<0.001
No change or less than before	68.0	32.0	
More than before	34.5	65.5	
Financial difficulty since the pandemic			<0.001
About the same or better off	69.1	30.9	
Worse off	55.4	44.6	

Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020). Weighted %, Unweighted N.

Table 3 presents the results from multivariate analysis, revealing the range of factors that significantly contributed to increased stress levels. These include having suspected or diagnosed COVID-19, being a keyworker, experiencing cancelled medical appointments, unmet or met

household care needs, engaging in home-schooling, changes in living arrangements, increased interpersonal conflicts, having at least one child aged 0-4 years in the household, and facing financial difficulties since the pandemic.

Table 3. Multivariate relationship between specific life changes and increased psychological stress---- coefficients from binary probit models among total participants, and each cohort.

	All cohorts n=14,130	NSHD (age 74) n=1598	NCDS (age 62) n=4692	BCS70 (age 50) n=3893	Next Steps (age 30) n=1682	MCS (age 19) n=2265
Cohort NCDS (ref)						
NSHD	-0.240***	-	-	-	-	-
BCS70	0.092**	-	-	-	-	-
Next Steps	0.199***	-	-	-	-	-
MCS	0.066	-	-	-	-	-
Sex Men (ref)						
Women	0.424***	0.334***	0.490***	0.371***	0.448***	0.429***
Multimorbidity No (ref)						

	All cohorts n=14,130	NSHD (age 74) n=1598	NCDS (age 62) n=4692	BCS70 (age 50) n=3893	Next Steps (age 30) n=1682	MCS (age 19) n=2265
Yes	0.205***	0.248***	0.155***	0.277***	0.151	0.239*
Had suspected or diagnosed COVID-19 No (ref)						
Yes	0.105*	0.102	0.136	0.022	0.188+	0.080
Being a keyworker No (ref)						
Yes	0.092*	-0.714	0.178**	0.055	0.011	0.369*
Stop working including furloughed No (ref)						
Yes	-0.131***	0.072	-0.020	-0.149*	-0.360***	-0.027
Leaning activity changed No (ref)						
Yes	0.061	-	-	-0.116	-0.116	0.247*
Medical appointment cancelled No (ref)						
Yes	0.112***	0.143+	0.111*	0.043	0.024	0.255**
Household care needs unmet since the pandemic No care needs (ref)						
Needs unmet	0.233**	0.226	0.121	0.414*	-0.058	0.177
Needs met	0.305***	0.485***	0.364*	0.180	0.197	0.084
Stopped childcare service use No (ref)						
Yes	-0.184	-	0.393	-0.153	-0.225+	0.428
Home-schooling No (ref)						
Yes	0.097+	0.426	0.171	0.092	0.082	-0.064
Living arrangement change during COVID-19 No (ref)						
Yes	0.137***	0.385*	0.188**	0.192**	0.020	0.074
Interpersonal conflict since the pandemic No change or less than before (ref)						
More than before	0.762***	0.967***	1.062***	0.938***	0.741***	0.522***
0-4 years old child in the household No (ref)						
Yes	0.294***	-	-0.115	0.354	0.268*	0.155
5-16 years old child in the household No (ref)						
Yes	-0.002	0.033	-0.020	-0.001	0.026	-0.416
Financial difficulty since the pandemic About the same or better off (ref)						
Worse off	0.328***	0.312**	0.332***	0.397***	0.384***	0.208***
Overcrowded accommodation ≤1 person per room (ref)						
>1 person per room	0.005	-0.544	-0.095	-0.011	0.092	0.020
Social class Higher managerial/professional (ref)						
Lower managerial/professional	0.022	0.661	-0.040	0.105	-0.053	-0.201
Intermediate	-0.019	0.115	-0.025	-0.013	-0.038	-0.228
Small employers	-0.021	-0.138	-0.020	0.012	-0.104	-0.414
Lower supervisory and technical	-0.138+	0.398	-0.042	-0.122	-0.262	-0.731+
Semi-routine	0.033	1.02*	-0.101	0.111	0.034	-0.238
Routine	-0.114+	0.800	-0.187	-0.215*	0.158	-0.250
Not classifiable	-0.045	0.306	-0.002	0.019	-0.021	-0.380

Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020).

***p<0.001, **p<0.01, *p<0.05, †<0.1

It is noteworthy that the impact of these factors varied across the different cohorts. For instance, among MCS participants (aged 19 years), changes in learning activities had a significant impact on increased stress. In the Next Steps cohort (aged 30), having a child aged 0-4 years in the household and being suspected or diagnosed with COVID-19 were major contributors to heightened stress levels. Among NSHD participants, individuals with increased care needs and those facing cancelled medical appointments experienced elevated stress, underscoring the challenges in accessing social and medical care during the pandemic. Additionally, women, individuals with multimorbidity, and those facing worsened financial difficulties since the

pandemic consistently exhibited a higher likelihood of increased stress across all cohorts.

After controlling for all selected life change variables, members of Next Steps (aged 30) and BCS70 (aged 49-50) still had a higher chance of reporting increased stress than NCDS members. In contrast, the oldest cohort (NSHD) had a lower chance of reporting increased stress. The difference between MCS and NCDS was not significant.

The sensitivity analysis (Table 4) shows that an increase in one life change during the COVID-19 pandemic is significantly associated with the chance of increased stress across all age cohorts.

Table 4. Multivariate relationship between number of life changes and increased psychological stress---- coefficients from binary probit models among total participants, and each cohort.

	All cohorts n=14,130	NSHD (age 74) n=1598	NCDS (age 62) n=4692	BCS70 (age 50) n=3893	Next Steps (age 30) n=1682	MCS (age 19) n=2265
Cohort NCDS (ref)						
NSHD	-0.250***	-	-	-	-	-
BCS70	0.113**	-	-	-	-	-
Next Steps	0.224***	-	-	-	-	-
MCS	0.057	-	-	-	-	-
Number of life changes	0.203***	0.293***	0.236***	0.196***	0.108***	0.223***
Sex Men (ref)						
Women	0.416***	0.342***	0.488***	0.354***	0.431***	0.429***
Multimorbidity No (ref)						
Yes	0.200***	0.222***	0.145***	0.260***	0.189+	0.261*
0-4 years old child in the household No (ref)						
Yes	0.071	-	0.048	0.119	0.098	0.221
5-16 years old child in the household No (ref)						
Yes	-0.055	0.041	0.001	-0.049	0.013	-0.476
Overcrowded accommodation <=1 person per room (ref)						
>1 person per room	0.011	-0.527	-0.098	0.008	0.094	0.018
Social class Higher managerial/professional (ref)						
Lower managerial/professional	-0.018	0.669	-0.069	0.074	-0.115	-0.337
Intermediate	-0.065	0.170	-0.059	-0.066	-0.092	-0.252
Small employers	-0.113	-0.173	-0.099	-0.019	-0.319	-0.553
Lower supervisory and technical	-0.214**	0.520	-0.087	-0.218+	-0.321	-0.841*
Semi-routine	0.040	1.028*	-0.156	0.042	0.084	-0.304
Routine	-0.206***	0.748	-0.251*	-0.285**	0.038	-0.423
Not classifiable	0.032	0.606	0.055	0.070	0.057	-0.322

Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020).

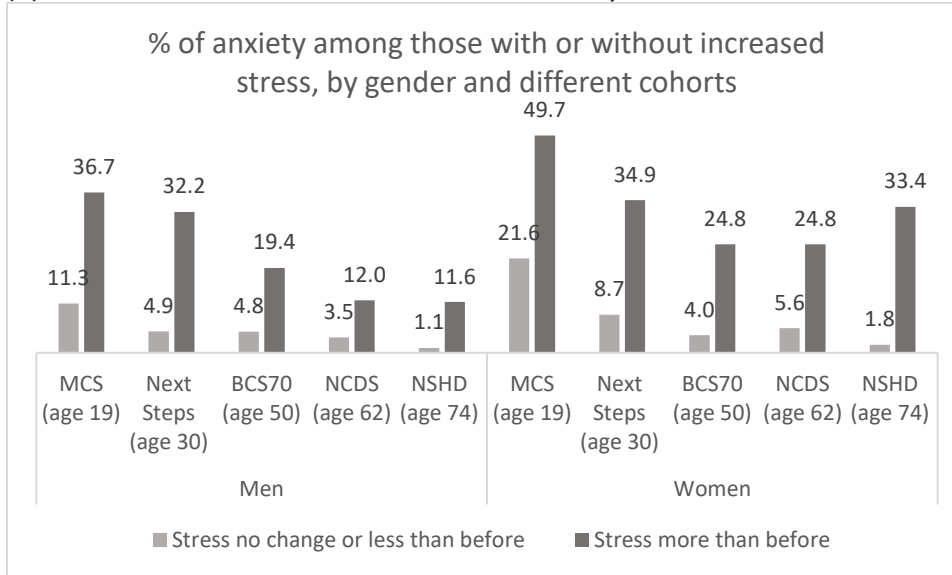
***p<0.001, **p<0.01, *p<0.05, †<0.1

3.3 ASSOCIATION BETWEEN INCREASED STRESS AND ANXIETY AS WELL AS DEPRESSION

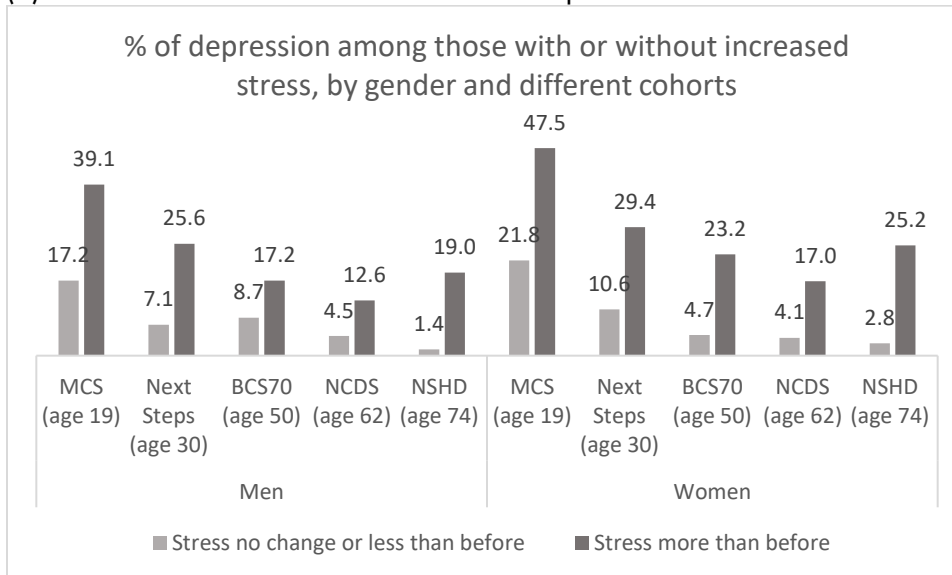
Figure 3 further illustrates the strong correlation between heightened psychological stress and clinical anxiety and depression across all cohorts

and genders. Individuals reporting increased stress since the pandemic faced a significantly elevated risk of clinical anxiety and depression, regardless of their gender or birth cohort.

Figure 3. Relationship between increased psychological stress and anxiety and depression.
(a) Association between increased stress and anxiety.



(b) Association between increased stress and depression.



Source: authors' analysis, COVID-19 Survey in Five National Longitudinal Cohort Studies (2020).

4. Discussion

This research provides insights into the profound psychological distress induced by the COVID-19 pandemic across diverse age cohorts. Our first hypothesis proposed that individuals at different life course stages would face diverse challenges during the initial lockdown, with different stressors and thus differential levels and intensification of stress. The study's findings confirm this hypothesis and provide a nuanced understanding of the varied stressors experienced by individuals across different age cohorts. Over a third of the participants faced heightened stress, reflecting a universal crisis marked by feelings of powerlessness due to lockdowns and restrictions, a reality affirmed

in prior research^{14,32}. Examining the pandemic's impact through a life course lens, reveals eleven distinct stressors - ranging from health concerns to disruptions in daily routines. These specific stressors significantly elevated stress levels, a pattern consistently found in previous studies^{6,15-24}.

Adopting a life course perspective highlights the pandemic's wide-ranging impact, affecting education, childcare, work, and healthcare, with varied implications for different age groups. Older adolescents, often enrolled in colleges or universities, experienced substantial disruptions in their education due to widespread closures of educational institutions. They had to adapt to online learning, facing hurdles such as limited access to

resources, difficulties adjusting to virtual classrooms, and potential gaps in learning³³⁻³⁵. Moreover, many older adolescents studying away from home had to abruptly return home due to lockdowns and travel restrictions, necessitating adjustments in their living situations and daily routines. Young adults in their thirties, many of whom were parents of young children, including toddlers, grappled with the closure of schools and day-care centres, disrupting childcare services. This forced young parents to balance working from home (or dealing with potential job loss¹⁸ while caring for their toddlers full-time. Juggling work responsibilities with childcare became a significant challenge, impacting their ability to concentrate on work and maintain productivity⁶.

Mid-career professionals in their fifties faced challenges in balancing demanding work responsibilities with family obligations. Lockdown measures blurred institutional and organizational boundaries, turning homes into the epicentre of education, work, and family life⁶. With remote work becoming prevalent, these individuals had to manage virtual meetings and deadlines alongside family needs, such as home-schooling older children, caring for elderly parents, or dealing with household tasks alongside adult children returning to the parental home. This dual burden of work and family responsibilities created additional stress and pressure²¹.

Older individuals who had retired encountered challenges related to increased care needs. Many retirees belonged to an age group more vulnerable to severe illness from COVID-19. They often required assistance with grocery shopping, medical appointments, and other essential tasks, which became complicated due to social distancing measures and lockdowns. Additionally, many medical appointments and elective procedures were cancelled or postponed, raising concerns about managing existing health conditions and accessing necessary healthcare services^{19,36}. These challenges arose from the diverse roles, responsibilities, and vulnerabilities associated with different life stages and circumstances, resulting in varied experiences and stressors during lockdowns.

Furthermore, the study highlights that a greater proportion of older-adolescents and young adults faced heightened stress, anxiety, and depression levels during the lockdown, surpassing mid-life and later-life cohorts. This may be because the younger cohorts experienced more life changes. Disrupted education, career uncertainties, transitional hurdles, and underdeveloped coping mechanisms amplified their stress levels, distinguishing them from older

age groups. Similar trends have been noted in other societies³⁵.

Moreover, this study underscores that increased levels of stress during the pandemic significantly escalated the risk of anxiety and depression across various age groups, demonstrating the pervasive impact of stressors on mental health. Regardless of age or gender, stress emerged as a common thread, emphasizing the relevance of a life course perspective in understanding mental health disparities during crises³⁷. The results support the second hypothesis.

In light of these findings, tailored policy interventions grounded in the life course perspective are important⁶. Enhancing mental health services in schools, implementing targeted transition support programs, empowering young adults through childcare service provision and employment opportunities, and promoting work-life balance for mid-life individuals all assume heightened importance. Additionally, improving community-based support systems for older people and promoting inter-generational initiatives will be vital strategies for bridging gaps across diverse age cohort groups.

5. Conclusion

This article highlights the diverse challenges faced by individuals at different life stages during the early phase of the pandemic. Older adolescents faced disrupted education, with many returning to the parental home; young adults had to cope with the closure of schools and childcare services, dealing with young children at home; mid-career professionals also found themselves balancing work and family responsibilities; retirees faced cancelled medical appointments and disrupted home care services. All these challenges are associated with significantly increased reported stress among affected individuals; particularly in adolescence and young adulthood, where mental health outcomes were poorer than in older cohorts. Moreover, heightened stress substantially raised the risk of developing anxiety and depression. The study affirms that individuals in various life stages faced exceptional challenges during the initial lockdown, adversely affecting mental well-being. Adolescents and young adults, experiencing more life changes but lacking life experience and accumulated resources, felt the disruption especially heavily. Going forward, given the potential health consequences of prolonged stress, anxiety, and depression, policymakers must consider these temporary challenges through a life course lens when designing appropriate interventions and support services.

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