REACH
Resilience, Ethnicity, and AdolesCent Mental Health

Centre for **Society** and **Mental Health**

# Young People, Covid-19, and Mental Health: The REACH Covid-19 Study (Part 1)

## Report 3: Impacts on Mental Health (by pre- and mid-covid risks)

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**CSMH Report R005**
This report was first published in February 2022
by the Centre for Society and Mental Health.

**ESRC Centre for Society and Mental Health**

The Centre for Society and Mental Health is an Economic and Social Research Council (ESRC) Centre based at King's College London [ES/S01256/1]. The views expressed are those of the author(s) and not necessarily those of the Economic and Social Research Council or King's College London.

**How to cite this paper:**

Gayer-Anderson, C., Knowles, G., Turner, A., Dorn, L., Lam, J., Davis, S., Blakey, R., Lowis, K., Schools Working Group, REACH Young Persons Advisory Group, Pinfold, V., Creary, N., Dyer, K., Hatch, S. L., Ploubidis, G., Kamaldeep, B., Harding, S., & Morgan, C. (2022) Young People, Covid-19, and Mental Health: The REACH Covid-19 Study (Part 1) Report 3: Impacts on Mental Health (by pre- and mid-covid risks). CSMH Report R005. London: ESRC Centre for Society and Mental Health.

**Further information:**

Please see: https://www.thereachstudy.com/

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# Contents

# Background and Procedures

## Background of REACH


REACH (Resilience, Ethnicity, and AdolesCent Mental Health) is an ongoing cohort study of adolescent mental health in two inner-city London boroughs, Southwark and Lambeth.

Twelve state-funded secondary schools in Southwark and Lambeth were invited to participate in REACH in 2015-2016, selected to be representative of mainstream secondary schools within the two boroughs, based on: (i) the proportion of students eligible for free school meals and (ii) the proportion of students from minority ethnic groups. All students in school years 7 to 9 (n, 4,945) were invited to participate at baseline, creating three cohorts – age 11-12 (Cohort 1; school year 7), 12-13 (Cohort 2; school year 8), and 13-14 (Cohort 3; school year 9). Each cohort completed questionnaires annually for three years. The fourth year of data collection – the Time 4 (T4) Covid-19 wave – is currently underway, and aims to track the mental health of adolescents, who have previously taken part in the REACH study, throughout the Covid-19 pandemic.

REACH is co-designed and implemented in partnership with young people and teachers. For T4, in March-April 2020, we conducted several focus groups and interviews with our Young Persons Advisory Groups (YPAG) and Teacher Advisory Group (TAG) to shape our research questions, methods of recontact, and the content and wording of the questionnaire.

## Procedures, Time 1 (2016-2017), Time 2 (2017-2018), Time 3 (2018-2019)

Each year, eligible participants, and their parent(s)/carer(s), were informed about the purpose and procedures of the REACH study, via in-school assemblies, information packs sent out to young people and their parent(s)/carer(s), the study website, and via school websites and mailing lists. Any parent or carer who did not want their child to participate could either return a completed opt out form or contact their school or the research team directly.

On the day of data collection, students were asked to provide written assent before completing a computerised battery of validated questionnaires, in class, on study tablet computers. Trained researchers were present in the classroom to offer guidance if needed. The assessment battery took around 60 minutes to complete and consisted of a range of questionnaires to collect detailed information on mental health and risk and protective factors.

## Procedures, Time 4 (T4) (Covid-19 Wave 1, May to August 2020)

At Time 3 (T3), students were provided with a 'Consent to Contact' form, providing options to be contacted about participation in future waves of data collection via email, phone, home address, one or more of their personal social media accounts, and/or via contact details provided for a nominated person. As the full extent of the Covid-19 pandemic became apparent, with the start of lockdown and the closures of schools in the UK, procedures were put in place to recontact all students who had taken part in at least one pre-pandemic wave of REACH and who, by then, had provided re-contact information (n 2,692).

To maximise participation, students were informed of the purpose of this wave of data collection and invited to participate via one or more of: (i) personalised links delivered by email and/or text message and/or social media accounts; (ii) hard copies of information sheets posted to home addresses, to ensure those without access to a computer could be informed of the study; (iii) telephone calls to students who had not responded to initial emails or text messages (or to those who had only

consented to being contacted by phone); (iv) via school websites and mailing lists.

After providing online informed consent, participants completed the assessment battery, which was conducted online via Qualtrics (a commercial population survey platform) and took approximately 30 minutes to complete. Students were compensated with £15 Love2Shop e-voucher for participating in this wave of data collection.

All procedures were approved by the Psychiatry, Nursing and Midwifery Research Ethics Subcommittee (PNM-RESC), King's College London (ref:15/162320).

# Focus of this Report

## Focus of this report

Data collection is still ongoing; the analyses presented in this report were conducted on the first 1,074 students who participated between when the survey link was opened (in May 2020) and the start of the new academic year (and UK schools reopening) in September 2020.

In this report, we present findings in relation to the following two questions:

1. Did the impacts of the pandemic (i.e. changes in levels of mental distress between T1-T3 to T4) vary by pre-pandemic risk factors (i.e. previous history of mental health difficulties; family affluence; frequency of parental arguments; parental drinking problems; history of being bullied; history of feeling lonely)?

2. Did the impacts of the pandemic (i.e. changes in levels of mental distress between T1-T3 to T4) vary by mid-pandemic circumstances and experiences (e.g., financial problems since the pandemic started, quality of family relationships; frequency of arguments with parents; loneliness; stability in the daily routine).

For a full list of questions and measures used, please see **Appendix: Measures & Sample Characteristics**.

This report accompanies the journal article, currently in press:

> Knowles G, Gayer-Anderson C, Turner A, Dorn, L, Lam J, Davis S, Blakey R, Lowis K, Schools Working Group; Young Persons Advisory Group; Pinfold V, Creary N, Dyer J, Hatch SL, Ploubidis G, Bhui K, Harding S, Morgan C. (In Press) Covid-19, social restrictions, and mental distress among young people: a UK longitudinal, population-based study. *Journal of Child Psychology and Psychiatry.*

## Measurement of distress (T1 to T4)

Distress was assessed using the widely used and validated self-report Strengths and Difficulties Questionnaire (SDQ) for 11 to 17-year-olds, which measures emotional and behavioural problems during the previous

6 months. The SDQ consists of 25 items, rated on a 3-point scale, corresponding to 5 subscales: emotional problems, peer problems, conduct problems, hyperactivity-inattention, and prosocial behaviours – each containing 5 items. In this report, we examine:

- Symptom severity (the total difficulties score), which ranges from 0-40, and calculated by summing scores from each subscale – except for items from the prosocial behaviour subscale.

- Internalising symptom severity, which ranges from 0 to 20, and calculated by summing scores from the emotional problems and the peer problems subscales.

- Externalising symptom severity, which ranges from 0 to 20, and calculated by summing scores from the conduct problems and the hyperactivity-inattention difficulties subscales.

- Probable mental health problem, where the total difficulties score was categorised using established thresholds (i.e., with scores ≥18 indicating a probable mental health problem).

## Data analysis and reporting

In this report, we present fixed effects regression coefficients which represent pre-to-mid-pandemic within-person change in SDQ scores (i.e., change between T1-T3 and T4). For this type of statistical modelling, each participant effectively acts as their own control, thereby accounting for potential confounding effects of time-invariant variables, e.g., sex and ethnic group. Positive coefficients indicate worsening – and negative coefficients improving – within-person mental health between T1-T3 and T4, accounting for pre-pandemic trends in mental health.

## Sample Characteristics (see Appendix: Measures & Sample Characteristics)

Between May and August 2020, 1,074 young people completed the T4 questionnaire. Of these, 1055 had completed questionnaires prior to the pandemic (T1-T3) (39% of 2,692 who provided recontact information by May 2020; 22% of 4,784 who participated at any previous time point).

There were some variations in response at T4 by demographic group and prior mental health. Those who completed the T4 questionnaire (vs. those who did not) were more likely to be girls (i.e., 67.5% vs. 46.2%), more likely to be in the British white ethnic group (i.e., 21.4% vs. 13.1%), and less likely to be in the Black Caribbean ethnic group (9.5% vs. 18.2%). Among boys, but not girls, those with a probable mental health problem (i.e., measured using the Strengths and Difficulties Questionnaire with a score >=18 being indicative of an individual having a probable mental health problem) at prior time points, particularly at T2 and T3, were more likely to participate at T4 than those without.

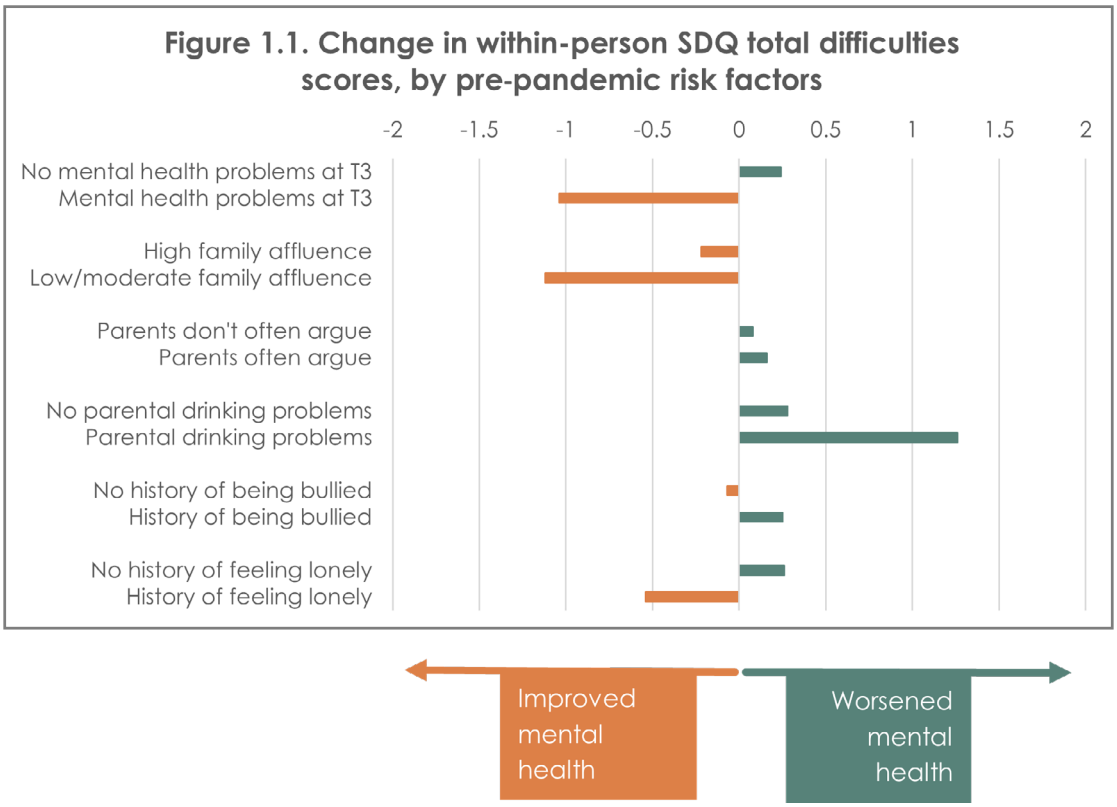
To account for non-response bias, we calculated inverse probability weights (see Appendix: Measures & Sample Characteristics for further details). This allowed us to broadly restore the representativeness of the sample on core demographic variables and prior mental health problems, ensuring the results are broadly generalisable to adolescents and young people in Southwark and Lambeth, south London.

(Question 1)

# Impacts by pre-pandemic risks

## (Question 1) Impacts by pre-pandemic risks

**Figure 1.1.** presents the pre-to-mid-pandemic within-person change in SDQ scores (i.e., overall change between T1-T3 and T4) by a selection of pre-pandemic risk factors (i.e. previous history of mental health difficulties; family affluence; frequency of parental arguments; parental drinking problems; history of being bullied; history of feeling lonely). Positive coefficients (green bars) indicate worsening – and negative coefficients (orange bars) indicate improving – within-person mental health between T1-T3 and T4, accounting for pre-pandemic trends in mental health.




- There was strong evidence of variation by prior mental health problems (i.e., SDQ scores >=18), with a modest reduction in overall distress, on average, among those with mental health problems pre-pandemic (-1.04 [95% CI -1.88, 0.20]) (but not among those without mental health problems).

- There was some evidence for variation by household affluence, with, on average, a small decrease in distress among young people from

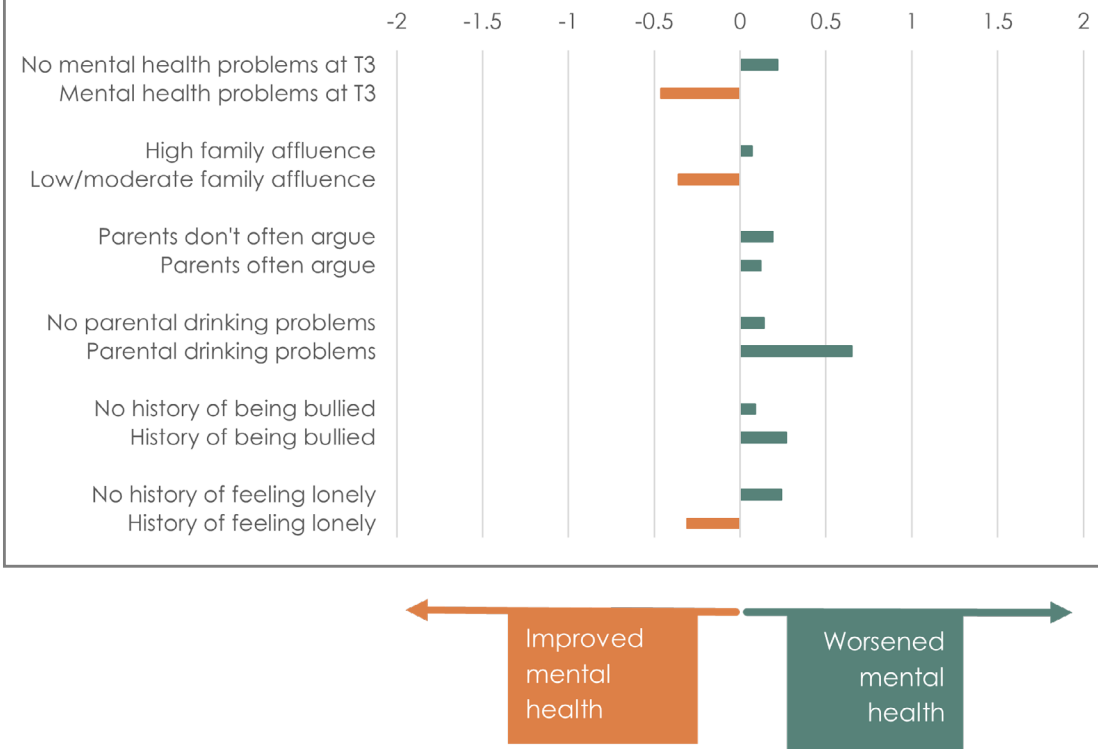
less affluent households pre-pandemic (-1.12 [95% CI -1.89, -0.36]) (but not more affluent).

- There was some evidence for variation by a history of feeling lonely, with a small decrease in distress among those who felt lonely pre-pandemic (-0.54 [95% CI -1.39, 0.31]), but no change in those who had never felt lonely.

- There was no evidence that change in overall distress varied notably by level of other pre-Covid-19 risks (e.g., bullying, parental discord).

**Figure 1.2a.** presents the pre-to-mid-pandemic within-person change in SDQ internalising scores (i.e., overall change between T1-T3 and T4) by a selection of pre-pandemic risk factors.

**Figure 1.2a. Change in within-person SDQ internalising scores, by pre-pandemic risk factors**




- Similar, albeit weaker, effects were evident for internalising scores as for total SDQ scores (above).

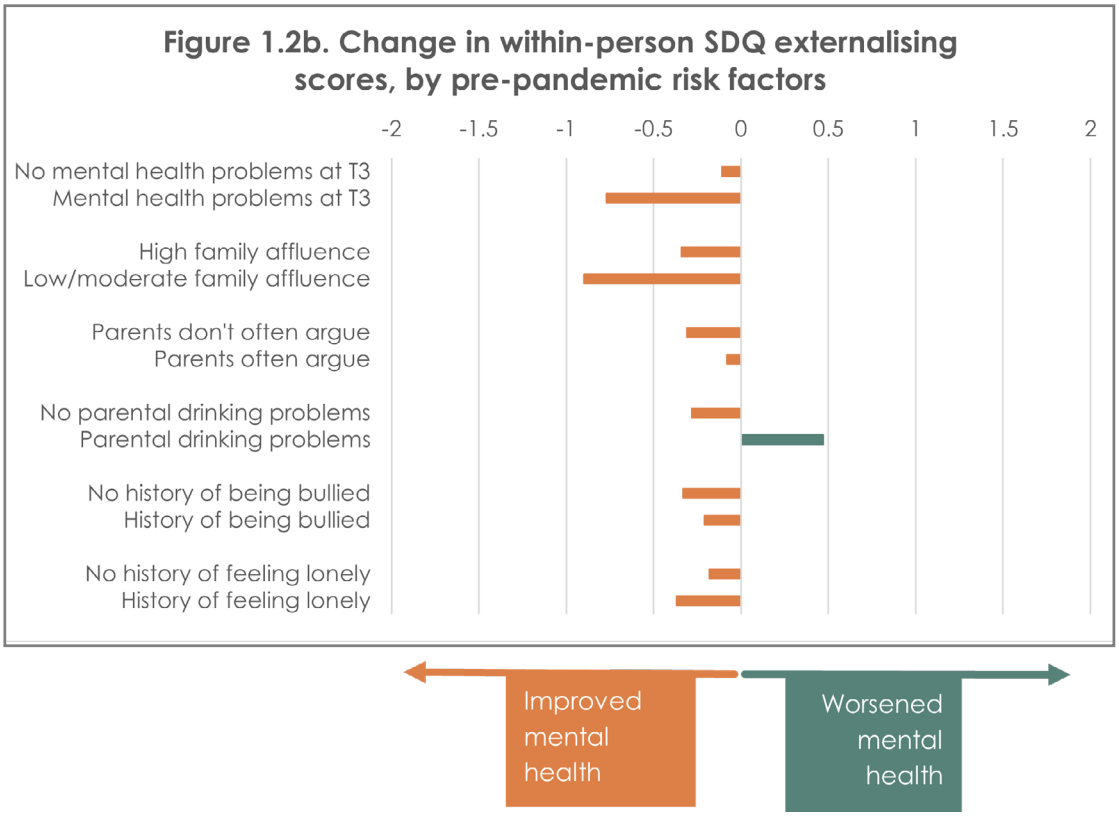
- There was evidence of variation by prior mental health problems (i.e., SDQ scores >=18), with a small reduction in internalising

scores, on average, among those with mental health problems pre-pandemic (-0.46 [95% CI -0.98, 0.06]) (but not among those without mental health problems).

- There was some evidence for variation by household affluence, with, on average, a small decrease in internalising scores among young people from less affluent households pre-pandemic (-0.36 [95% CI -0.82, 0.11]) (but not more affluent).

**Figure 1.2b.** presents the pre-to-mid-pandemic within-person change in SDQ externalising scores (i.e., overall change between T1-T3 and T4) by a selection of pre-pandemic risk factors.

**Figure 1.2b. Change in within-person SDQ externalising scores, by pre-pandemic risk factors**




- As with the total difficulties score (Figure 1.1), and the internalising scores (Figure 1.2a), there was evidence of variation by prior mental health problems (i.e., SDQ scores >=18), with a modest reduction in externalising scores, on average, among those with (-0.77 [95% CI -1.32, 0.22]) (but not without) mental health problems pre-pandemic.

- There was some evidence of variation by parental discord, with, on average, a small decrease in externalising scores among young people

whose parents did not often argue (-0.31 [95% CI -0.73, 0.12]) (but not among those whose parents did often argue).

- There was some evidence of variation by parental drinking problems, with, on average, a small decrease in externalising scores among young people whose parents did not have drinking problems (-0.28 [95% CI -0.69, 0.12]) (but not among those whose parents did have drinking problems).

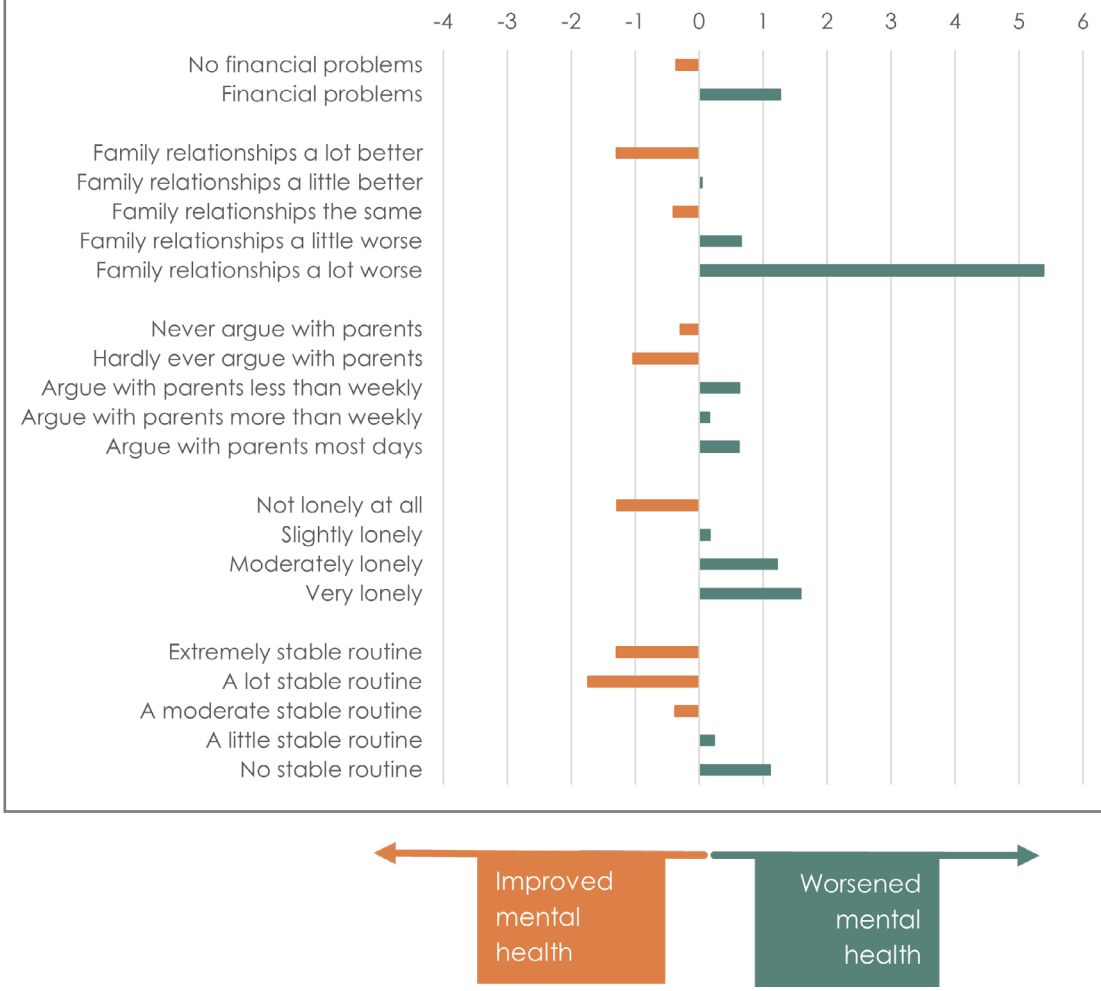
(Question 2)

# Impacts by mid-pandemic risks

## (Question 2) Impacts by mid-pandemic risks

**Figure 2.1.** presents the pre-to-mid-pandemic within-person change in SDQ scores (i.e., overall change between T1-T3 and T4) by a selection of mid-pandemic risk factors (i.e. financial problems since the pandemic started, quality of family relationships; frequency of arguments with parents; loneliness; stability in the daily routine). Positive coefficients (green bars) indicate worsening – and negative coefficients (orange bars) indicate improving – within-person mental health between T1-T3 and T4, accounting for pre-pandemic trends in mental health.

**Figure 2.1. Change in within-person SDQ total difficulties scores, by pre-pandemic risk factors**




- There was stronger evidence of variations in within-person change in distress by several mid-pandemic experiences, with – broadly – increases among those reporting negative impacts and decreases

among those reporting positive impacts (Figure 2.1. for select variables).

- There were notable variations by family relationships, with a marked increase in distress among those who reported that relationships with family were a lot worse than usual (5.39 [95% CI 1.10, 9.69]) and a decrease among those who reported that relationships were a lot better than usual (-1.29 [95% CI -2.82, 0.25]).

- There was also strong evidence of variation by household financial circumstances, with evidence of an increase in distress, on average, among those who reported household financial problems at T4 (1.27 [95% CI -0.04, 2.58]), but no change among those who did not (-0.36 [95% CI -0.96, 0.24]).

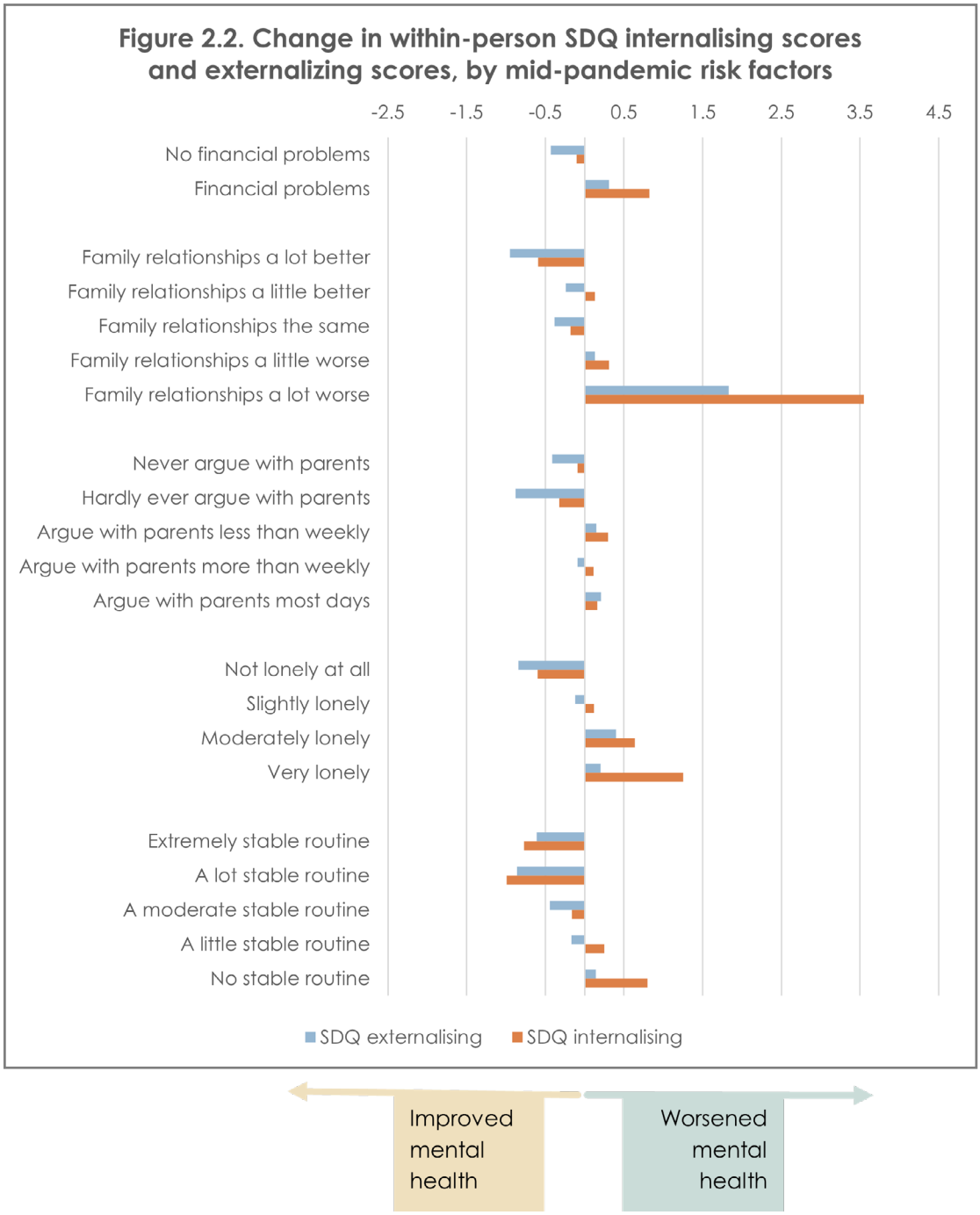
- Similar patterns and effects were evident for impacts related to social connections, activities, and routines, i.e. around a 1.5 increase in SDQ total scores for the most negative impacts in these domains and around a 1.0 decrease for the most positive impacts.

**Figure 2.2.** *(on the following page)* presents the pre-to-mid-pandemic within-person change in SDQ internalising and externalising scores (i.e., overall change between T1-T3 and T4) by a selection of mid-pandemic risk factors.

- When the total difficulties score was separated into internalising and externalising scores, these broad patterns remained, with slightly clearer and stronger effects for internalising scores than externalising scores.

[1] Knowles G, Gayer-Anderson C, Turner A, Dorn, L, Lam J, Davis S, Blakey R, Lowis K, Schools Working Group; Young Persons Advisory Group; Pinfold V, Creary N, Dyer J, Hatch SL, Ploubidis G, Bhui K, Harding S, Morgan C. (In Press) Covid-19, social restrictions, and mental distress among young people: a UK longitudinal, population-based study. Journal of Child Psychology and Psychiatry

**Figure 2.2. Change in within-person SDQ internalising scores and externalizing scores, by mid-pandemic risk factors**

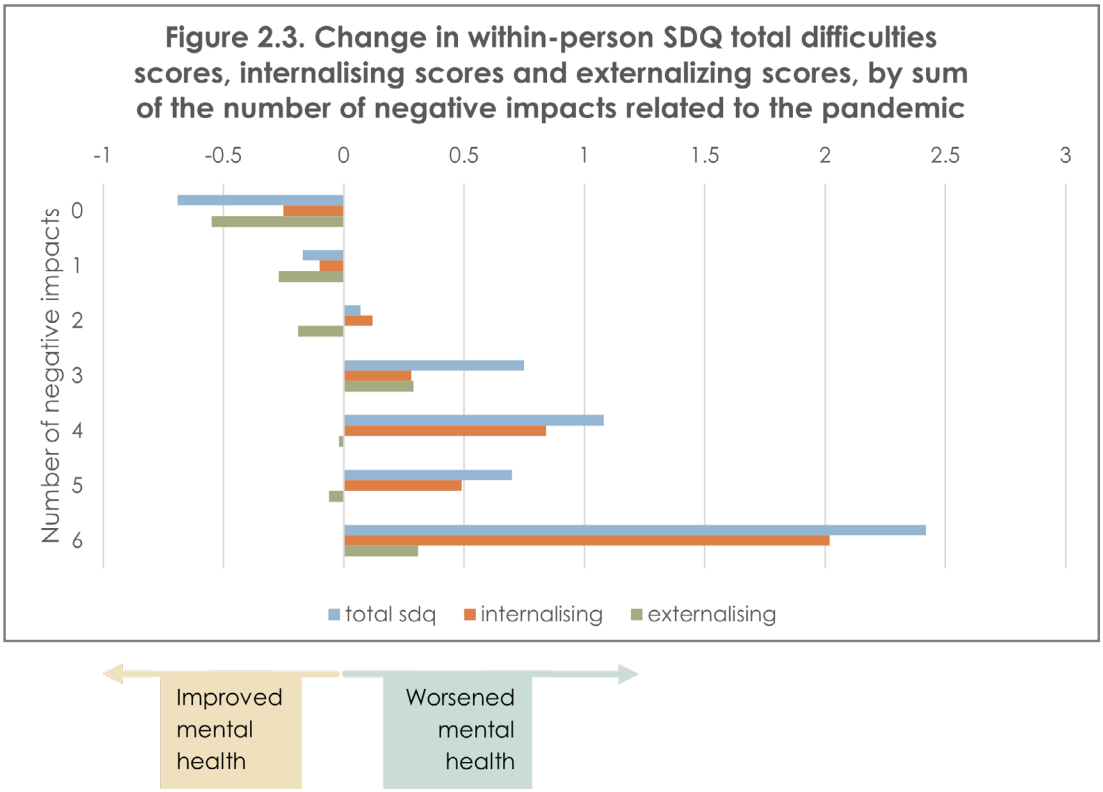



Many young people experienced multiple negative impacts. These included: 1) changes to housing amenities and quality of living space; 2) changes to household income; 3) quality of family relationships; 4) frequency of arguments with parents; 5) changes to feelings in loneliness; 6) difficulty in sleeping; 7) frequency of exercise; and 8) stability of daily routine. For example, around 30% (n 321) of the cohort reported 2 or more (out of 8) negative impacts and around 10% (n 105) 3 or more (Knowles et al., in press[1]) . Using a simple index counting the number of negative impacts reported, we present in Figure 2.3. the pre-to-mid-pandemic within-person change in SDQ internalising and

externalising scores (i.e., overall change between T1-T3 and T4) by the sum of these impacts.

- **Figure 2.3.** shows strong evidence of cumulative effects, such that within-person increases in distress were amplified with each additional adverse effect. That is, for every additional negative impact, within-person change in distress increased by around 0.43 [95% CI 0.22, 0.65]. These effects were clearer for internalising scores than for externalising scores.

**Figure 2.3. Change in within-person SDQ total difficulties scores, internalising scores and externalizing scores, by sum of the number of negative impacts related to the pandemic**



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