Housing, financial conditions and mental health during a pandemic

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COVID-19 pandemic had major impacts on mental health across the world (Le and Nguyen (2021); O’Connor et al. (2021); Kola et al. (2021); Farkhad and Albarracín (2021))
COVID-19 pandemic had major impacts on mental health across the world.

Lockdowns and social-distancing imply much more time than before at home.
Context

COVID-19 pandemic had major impacts on mental health across the world

Lockdowns and social-distancing imply much more time than before at home

The importance for mental health of one’s living space was significant in pre-pandemic times (Krieger and Higgins (2002), Schulz and Northridge (2004), Bambra et al. (2010), Marmot et al. (2010), Braubach (2011))
COVID-19 pandemic had major impacts on mental health across the world

Lockdowns and social-distancing imply much more time than before at home

The importance for mental health of one’s living space was significant in pre-pandemic times

Likely to have grown during the pandemic
Moreover, increased financial stress for negative shocks to employment and income could compound the toll on mental health.
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Housing is prominent in this respect too, since rent or mortgage loan payments represent a sizeable part of household expenses and cannot easily be adjusted.
Contribution

Test whether the pre-pandemic gradient in mental health across tenures stays the same during the pandemic
Contribution

Test whether the pre-pandemic gradient in mental health across tenures stays the same during the pandemic

Test also two possible channels: ability to keep up with housing payments and access to outdoor space
Data

Data

8 waves of Understanding Society’s COVID-19 Study (April 2020 - March 2021), and 10 waves of Understanding Society’s main survey (2009-2020)

Panel data: between about 128,000 and 338,000 observations, and about 32,500 unique individuals
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Panel data: between about 128,000 and 338,000 observations, and about 32,500 unique individuals

Insight on reported mental health, housing tenure, ability to keep up with housing payments and access to outdoor space
Data
Data

The graph illustrates the unhappy/depressed indicator over time from pre-covid 2019/20 to March 2021. The x-axis represents the months and years, while the y-axis shows the indicator values ranging from 1.9 to 2.3. Two periods are marked: 1st lockdown and 2nd lockdown.

- **1st lockdown**: April 2020 to June 2020
- **2nd lockdown**: November 2020 to March 2021

The graph uses different markers to indicate:
- **Up to date with housing payments** represented by blue circles.
- **Falling behind** represented by red circles.

The data suggests a significant increase in the indicator during the 1st lockdown, with a decrease during the 2nd lockdown.
Data

To GHQ charts
Results

To GHQ results

Outright homeowners vs rest

Mortgagors vs rest

To estimation
Results

Public renters vs rest

Private renters vs rest
Results
Results

More outdoor
Results

Some sizeable short-term variations: e.g. gap between private renters and the rest decreases in the first two months of pandemic.
Results

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Changes as compared to pre-pandemic times quickly reabsorb
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Some sizeable short-term variations: e.g. gap between private renters and the rest decreases in the first two months of pandemic

Changes as compared to pre-pandemic times quickly reabsorb

Trend largely synchronised across tenures: reported mental health worsens and improves with the infections waves and lockdowns in the same manner across tenures (similar overall trends in Foa et al. (2020); Daly and Robinson (2021))
Conclusions

Pre-pandemic gradient in mental health across tenures stays largely the same during the pandemic
Conclusions

Pre-pandemic gradient in mental health across tenures stays largely the same during the pandemic.

Channels of financial distress and access to outdoor space not affected much.
Conclusions

Pre-existing gradients are persistent and resistant to multi-faceted shocks such as that represented by the COVID-19 pandemic.
Conclusions

Pre-existing gradients are persistent and resistant to multi-faceted shocks such as that represented by the COVID-19 pandemic.

Mental health inequality is entrenched and structural.
Thank you!

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Theoretical framework

Two channels from housing tenure to mental health: material and intangible
Theoretical framework

Two channels from housing tenure to mental health: material and intangible

Material: security of tenure and, at the extremes, fear of eviction or foreclosure, as well as dwelling characteristics (Currie and Tekin (2015), McLaughlin et al. (2012), Park and Seo (2020), Curl et al. (2015), Pevalin et al. (2017))
Theoretical framework

Two channels from housing tenure to mental health: material and intangible

Material: security of tenure and, at the extremes, fear of eviction or foreclosure, as well as dwelling characteristics

Hypotheses

Hypothesis 1

The gap in reported mental health between outright homeowners and the remaining tenure categories has increased as a result of the pandemic through increased financial pressure on mortgagors and renters.

Hypothesis 2

The gap in reported mental health between those with and without access to outdoor spaces has increased as a result of the pandemic.
Empirical strategy

Difference-in-differences
Empirical strategy

Difference-in-differences

Imputation estimator coming from recent advances with staggered adoption (Borusyak et al., 2021)
Empirical strategy

Difference-in-differences

Imputation estimator coming from recent advances with staggered adoption

Useful also when units are treated together: intuitive estimation, testing of assumptions separate from estimation
Definition of mental health and depression

 [...] a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (WHO, 2005).

 [...] a common mental disorder, involving persistent sadness or loss of interest or pleasure accompanied by several of the following symptoms: disturbed sleep or appetite, feelings of guilt or low self-worth, feelings of tiredness, poor concentration, difficulties making decisions, agitation or physical restlessness, talking or moving more slowly than normal, hopelessness, and suicidal thoughts or acts (WHO, 2016).
Survey question for mental health

Have you recently been feeling unhappy or depressed?

- Much more than usual
- Rather more than usual
- No more than usual
- Not at all
## Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Outright homeowners</th>
<th>Mortgagors</th>
<th>Public renters</th>
<th>Private renters</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Pre-pandemic unhapp/depp</td>
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<td>0.76</td>
<td>1.83</td>
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<td>0.80</td>
<td>2.00</td>
<td>0.82</td>
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<tr>
<td>Age</td>
<td>60.50</td>
<td>14.67</td>
<td>41.98</td>
<td>12.71</td>
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<tr>
<td>Share female (%)</td>
<td>55.51</td>
<td>49.70</td>
<td>56.45</td>
<td>49.58</td>
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<tr>
<td>Share with a degree (%)</td>
<td>42.19</td>
<td>49.39</td>
<td>53.79</td>
<td>49.86</td>
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<td>Observations</td>
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<td>120707</td>
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<table>
<thead>
<tr>
<th></th>
<th>Up to date with housing payments</th>
<th>Not up to date</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Mean</td>
<td>S.D.</td>
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<tr>
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<td>Age</td>
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<td>Share female (%)</td>
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<td>48.86</td>
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<tr>
<td>Share with a degree (%)</td>
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<td>49.93</td>
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<table>
<thead>
<tr>
<th></th>
<th>Access to outdoor space</th>
<th>No access</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
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<td>Pre-pandemic unhapp/depp</td>
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<td>Pandemic unhapp/depp</td>
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<td>Age</td>
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<td>Share female (%)</td>
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<td>Share with a degree (%)</td>
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<tr>
<td>Observations</td>
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</tbody>
</table>
12-items General Health Questionnaire

[Graph showing trends over time with different markers for housing types: Owned outright, Owned with mortgage, Local authority/housing association rented, Privately rented.]

1st lockdown
2nd lockdown
12-items General Health Questionnaire

![Graph showing mental health scores over time with lockdown periods labeled.](image-url)

- **GHQ-12 indicator**
- **1st lockdown**
- **2nd lockdown**

- **Pre-covid 2019/20**
- **April 2020**
- **May 2020**
- **June 2020**
- **July 2020**
- **September 2020**
- **November 2020**
- **January 2021**
- **March 2021**

- **Up to date with housing payments**
- **Falling behind**
12-items General Health Questionnaire

![Graph showing changes in GHQ-12 indicator from pre-covid 2019/20 to March 2021. The x-axis represents time periods from April 2020 to March 2021, and the y-axis represents the GHQ-12 indicator scores. The graph compares access to outdoor space (blue circles) and no access (red circles).]
The imputation estimator

\[ UD_{it}(\mathcal{O}) = \gamma_g + \lambda_t + \beta_a \text{Age}_{it} + \beta_g \text{Gender}_{it} + \beta_h \text{HousingTenure}_{it} + \beta_q \text{Qualification}_{it} + \epsilon_{it} \]  

\[ \hat{\tau}_{it} = UD_{it} - \widehat{UD}_{it}(\mathcal{O}) \]  

\[ \widehat{ATT}_h = \sum_{i=1}^{N_h} \frac{1}{N_h} \hat{\tau}_{ih} \]
12-items General Health Questionnaire
12-items General Health Questionnaire
12-items General Health Questionnaire
12-items General Health Questionnaire
12-items General Health Questionnaire
More outdoor
More outdoor

Private garden vs rest

Shared garden vs rest

Pre-trend coefficients  Treatment effects
References I


References III


References IV


