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Back to Normal? The Enduring Effects of COVID-19 Lockdowns on Wellbeing

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Research Summary

Why was the research done?

The COVID-19 pandemic prompted unprecedented policy responses, including widespread implementation of lockdowns, defined as mobility restrictions to contain COVID-19 virus transmission, particularly before the availability of COVID-19 vaccines and the achievement of population-level immunity. Although lockdowns were effective in reducing transmission, growing international evidence indicates that they also had wide-ranging unintended socioeconomic and health consequences. While an increasing body of evidence documents the effects of lockdowns on subjective wellbeing or overall life satisfaction, little is known about whether these effects persist or emerge after lockdowns have been lifted.

This study investigates the immediate and longer-term impacts of COVID-19 lockdowns on overall life satisfaction and eight domains of subjective wellbeing, addressing the lack of evidence on whether these effects persist after lockdowns end. Leveraging quasi-natural variation in the timing and duration of local lockdowns across Australia and using long-horizon individual-level panel data spanning the pre-pandemic, pandemic and post-pandemic periods, we employ individual fixed-effects models with time and location fixed effects to identify the causal effects of lockdowns.

What were the key findings?

Our results show that lockdowns substantially reduce overall life satisfaction and satisfaction with employment opportunities and community, while increasing satisfaction with free time. These effects are strongest closer to the lockdown period and diminish over time. The effects are also non-linear, with most wellbeing outcomes affected only when lockdown exposure exceeds approximately two months in the preceding year. While effects on free time and community satisfaction are short-lived, negative effects on overall life satisfaction and satisfaction with employment opportunities persist for up to four years. We also identify delayed negative effects on satisfaction with financial circumstances, home, neighbourhood, and health, alongside a delayed positive effect on personal safety satisfaction. Heterogeneity analysis reveals larger effects among younger individuals, positive immediate effects on financial satisfaction only among lower-income households, and contrasting effects on health satisfaction across genders.

What does this mean for policy and practice?

These findings highlight the importance of considering lockdown duration and longer-term wellbeing effects in future pandemic responses.

Citation

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We acknowledge the Traditional Custodians of the lands on which we work and live across Australia. We pay our respects to Elders past and present and recognise their continued connections to land, sea and community.

Back to Normal? The Enduring Effects of COVID-19 Lockdowns on Wellbeing

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We investigate the immediate and longer-term impacts of COVID-19 lockdowns on overall life satisfaction and eight domains of subjective wellbeing, addressing the lack of evidence on whether these effects persist after lockdowns end. Leveraging quasi-natural variation in the timing and duration of local lockdowns across Australia and using long-horizon individual-level panel data spanning the pre-pandemic, pandemic and post-pandemic periods, we employ individual fixed-effects models with time and location fixed effects to identify the causal effects of lockdowns. Our results show that lockdowns substantially reduce overall life satisfaction and satisfaction with employment opportunities and community, while increasing satisfaction with free time. These effects are strongest closer to the lockdown period and diminish over time. The effects are also non-linear, with most wellbeing outcomes affected only when lockdown exposure exceeds approximately two months in the preceding year. While effects on free time and community satisfaction are short-lived, negative effects on overall life satisfaction and satisfaction with employment opportunities persist for up to four years. We also identify delayed negative effects on satisfaction with financial circumstances, home, neighbourhood, and health, alongside a delayed positive effect on personal safety satisfaction. Heterogeneity analysis reveals larger effects among younger individuals, positive immediate effects on financial satisfaction only among lower-income households, and contrasting effects on health satisfaction across genders. These findings highlight the importance of considering lockdown duration and longer-term wellbeing effects in future pandemic responses.

Keywords: COVID-19; Lockdowns; Subjective Wellbeing; Life Satisfaction; Australia.

JEL Classifications: I14; I18; I31; J13; J17

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1. Introduction

The COVID-19 pandemic prompted unprecedented policy responses, including widespread implementation of lockdowns, defined as mobility restrictions to contain COVID-19 virus transmission, particularly before the availability of COVID-19 vaccines and the achievement of population-level immunity (Chiesa *et al.* 2021; Talic *et al.* 2021). Although lockdowns were effective in reducing transmission, growing international evidence indicates that they also had wide-ranging unintended socioeconomic and health consequences (Brodeur *et al.* 2021a; Adams-Prassl *et al.* 2022; Altindag *et al.* 2022; Serrano-Alarcón *et al.* 2022; Anaya *et al.* 2024; Decerf *et al.* 2026).

While an increasing body of evidence documents the effects of lockdowns on subjective wellbeing or overall life satisfaction[1], little is known about whether these effects persist or emerge after lockdowns have been lifted (Clark & Lepinteur 2022; Grimes 2022; Foliano *et al.* 2024; Schmid *et al.* 2024; Schmidtke *et al.* 2024). Evidence on the longer-term impacts of COVID-19 lockdowns for wellbeing is important for informing policies to manage future pandemics and other public health emergencies requiring restrictions on mobility and social interaction.

This study addresses this gap by examining the immediate and longer-term causal effects of COVID-19 lockdowns on Australians' wellbeing, extending previous international research beyond immediate impacts. We exploit quasi-natural variation in the timing and duration of local-area lockdowns, linking historical lockdown data across all Australian states and territories to the nationally representative Household, Income and Labour Dynamics in Australia (HILDA) Survey, which spans 2001–2024 and provides observations from well before the pandemic to three years after the last lockdown in 2021 (Summerfield *et al.* 2025). We employ individual fixed-effects models with time and location fixed effects to identify the causal effects of lockdowns. By exploiting within-individual variation in life satisfaction over time and differences in lockdown exposure, this approach accounts for time-invariant individual heterogeneity, regional differences and common temporal shocks. We also control for time-varying individual- and household-level characteristics to mitigate potential confounding.

[1] Subjective wellbeing is commonly measured using life satisfaction in the literature (Frey & Stutzer 2002; Ferrer-i-Carbonell 2013). For consistency, we use these terms interchangeably throughout this study.

This study makes three key contributions to the literature. First, it provides novel evidence on the effects of COVID-19 lockdowns beyond their immediate impacts. Specifically, the long-horizon data and empirical framework allow us to examine wellbeing outcomes up to four years after lockdowns ended. This enables us to identify both persistent and delayed effects of lockdown exposure over an extended post-lockdown period that, to our knowledge, is the longest examined in this literature.

Second, this study considers not only overall life satisfaction, as in most previous studies (Clark & Lepinteur 2022; Grimes 2022; Foliano *et al.* 2024; Schmid *et al.* 2024; Schmidtke *et al.* 2024), but also eight specific domains of life satisfaction: satisfaction with employment opportunities, financial situation, free time, home, community, neighbourhood, personal safety and health. This comprehensive analysis provides evidence on the potential channels through which lockdowns affect overall life satisfaction and identifies whether effects differ across specific dimensions of subjective wellbeing.

Third, this study provides the first Australian evidence on the effects of COVID-19 lockdown exposure across a comprehensive set of life satisfaction domains. Australia's distinctive COVID-19 policy setting, characterised by relatively stringent lockdown measures and low COVID-19-related mortality (Clarke & Leigh 2022; Ketter *et al.* 2026), provides an important setting in which to examine whether findings from other countries generalise to a context in which substantial restrictions were imposed while COVID-19 mortality remained comparatively low. Although the effects of COVID-19 lockdowns on other outcomes have been documented in Australia (Butterworth *et al.* 2022; Botha *et al.* 2023; Schurer *et al.* 2023; Feng *et al.* 2024; Kong & Lam 2024; Ketter *et al.* 2026; Salamanca *et al.* 2026), evidence on their effects across multiple domains of subjective wellbeing remains limited. The Australian evidence is therefore relevant not only for understanding the effects of Australia's pandemic response but also for informing policy in other countries facing similar circumstances or considering comparable measures in future public health emergencies.

This study produces five key findings, several of which are new to the literature. First, lockdowns significantly and substantially decrease overall life satisfaction. By specific domains, while lockdowns increase satisfaction with free time, lockdowns decrease satisfaction with employment opportunities and community. The magnitude of these effects increases as the retrospective window for lockdown exposure becomes shorter. The estimated effects are substantial in magnitude. For instance, seven consecutive days of lockdown exposure during the week preceding the survey date correspond to a reduction of approximately 0.023 standard

deviations (SD) in overall life satisfaction and 0.085 SD in community satisfaction, and an increase of approximately 0.095 SD in free time satisfaction. Moreover, these effects are even more pronounced when lagged or delayed effects are taken into account.

Second, we find that the effects of COVID-19 lockdowns on these selected life satisfaction outcomes are highly non-linear, with effects for most outcomes emerging only when the duration of lockdowns exceeds approximately two months during the preceding year. Third, while the effects of COVID-19 lockdowns on free-time and community satisfaction are short-lived, their effects on overall life satisfaction and satisfaction with employment opportunities persist for up to four years after lockdowns end. Moreover, lockdowns have delayed negative effects on financial, home, neighbourhood, and health satisfaction, alongside a delayed positive effect on personal safety satisfaction.

Fourth, the effects of COVID-19 lockdowns differ substantially across selected outcomes and population subgroups. Notably, individuals aged 15–24 years experience the largest declines in overall life satisfaction following COVID-19 lockdowns, driven by reduced satisfaction with employment opportunities, despite an increase in satisfaction with free time among this youngest age group. We also find that, consistent with the substantial government financial support provided to lower-income Australians during the pandemic, lower-income individuals experience improvements in financial satisfaction during COVID-19 lockdowns, although this effect is short-lived and confined to individuals from lower-income households. Furthermore, lockdowns have contrasting effects on health satisfaction, improving health satisfaction among females but reducing it among males. Finally, our findings are robust to alternative samples and specifications and multiple-hypothesis-testing adjustments.

The remainder of this paper is organised as follows. Section 2 reviews the relevant literature. Section 3 describes the methodology, including the data, subjective wellbeing indicators, lockdown measures and empirical models. Section 4 presents the results on the immediate effects of COVID-19 lockdowns, the non-linear effects of lockdown duration, the longer-term effects and heterogeneity in these effects. Section 5 reports the robustness checks, and Section 6 concludes.

2. A brief literature review

This study contributes to two related strands of the literature. The first examines the determinants of life satisfaction and subjective wellbeing (for reviews of this literature, see, for example, Frey and Stutzer (2002) or Ferrer-i-Carbonell (2013)). These determinants include

income (Frijters *et al.* 2004), life events (Nguyen *et al.* 2020), climatic factors (Feddersen *et al.* 2016; Johnston *et al.* 2021; Lignier *et al.* 2023; Nguyen & Mitrou 2025a), and macroeconomic conditions (Di Tella *et al.* 2003; Nguyen & Duncan 2020).

The second, rapidly expanding strand of literature examines the effects of COVID-19 on various aspects of life around the world (see, for example, reviews by Brodeur *et al.* (2021b) or Li *et al.* (2023)). Within this literature, the present study is more closely related to the large number of studies examining the effects of policies that restricted residential mobility during the pandemic, commonly referred to as COVID-19 lockdowns. Studies from around the world have examined the effects of lockdowns on a wide range of outcomes, including economic and health outcomes (Brodeur *et al.* 2021a; Adams-Prassl *et al.* 2022; Altindag *et al.* 2022; Serrano-Alarcón *et al.* 2022; Anaya *et al.* 2024; Decerf *et al.* 2026).

In Australia, studies have also examined the effects of COVID-19 lockdowns on health (Foley *et al.* 2021; Yeoh *et al.* 2021; Butterworth *et al.* 2022; Moore *et al.* 2022; Feng *et al.* 2024; Pratt *et al.* 2025; Trinh *et al.* 2026), labour supply (Guven *et al.* 2023; Ketter *et al.* 2026; Salamanca *et al.* 2026), births (Mooi-Reci *et al.* 2023; Mooi-Reci *et al.* 2024), deaths (Clarke & Leigh 2022), loneliness (Kong & Lam 2024), social capital (Son & Kim 2026), and multiple life outcomes (Schurer *et al.* 2023). However, none explicitly examines the effects of COVID-19 lockdowns on subjective wellbeing, encompassing both overall life satisfaction and satisfaction across eight specific domains.[2]

Our study is most closely related to the growing international literature that directly examines the effects of COVID-19 lockdowns or related policy restrictions on subjective wellbeing and life satisfaction. For instance, Clark and Lepinteur (2022) use the longitudinal COME-HERE survey covering France, Germany, Italy, Spain and Sweden. They exploit variation over time and across countries in the Oxford COVID-19 Government Response Stringency Index and estimate individual fixed-effects models.

Grimes (2022) examines New Zealand using repeated cross-sectional wellbeing surveys conducted during 2020 and exploits differences in the COVID-19 alert level faced by

[2] Notably, an Australian study by Schurer *et al.* (2023) examines four broad domains of human life, including social connectedness. Within this domain, it analyses feelings of safety and of being part of the local community, which correspond to two of the eight life-satisfaction domains examined in the present study (see Section 3.2 for details). The study uses HILDA Release 20 data, collected predominantly in 2020, and exploits the 111-day Melbourne lockdown as a quasi-experiment by comparing changes in outcomes between Melbourne and Sydney. However, the analysis focuses on the immediate effects of a single Melbourne lockdown and does not examine overall life satisfaction, the six other life-satisfaction domains, or the longer-term effects of cumulative lockdown exposure considered in the present study.

respondents across regions and survey periods. The lockdown measure is based on the country's four-level alert system, with higher levels representing increasingly stringent restrictions on movement and economic activity. The estimates indicate that the most stringent lockdown level was associated with a decline in life satisfaction relative to the least restrictive level.

Schmidtke *et al.* (2024) use panel data on German workers and an event-study design with individual fixed effects to examine the effects of the national lockdown on overall life satisfaction, as well as satisfaction with job, leisure, family life, and household chores. Event time is defined relative to the introduction of the first nationwide lockdown, while subsequent periods capture the relaxation of restrictions and the onset of the second pandemic wave. This design allows the authors to examine both the initial effects of the lockdown and subsequent adaptation. They find a relatively small decline in life satisfaction concentrated around the onset of the first lockdown, followed by a return towards pre-pandemic levels. They find no comparable decline in life satisfaction during the second wave.

Schmid *et al.* (2024) also examine Germany during the second COVID-19 lockdown using the FReDA panel and match respondents to local restrictions based on their regional location and survey timing. They find no statistically significant association between objectively measured local restrictions and life satisfaction, although respondents' perceptions of the pandemic are negatively associated with life satisfaction.

Foliano *et al.* (2024) examine the United Kingdom using nationally representative 24-hour diary data covering the first two years of the pandemic. They exploit variation in the stringency of social restrictions and use an event-study approach to distinguish the effects of restrictions from other pandemic-related changes. They find substantial declines in wellbeing during periods of stricter restrictions, which are linked in particular to reductions in leisure time spent with people outside the household. Their analysis also shows larger declines in wellbeing among women.

Overall, the literature provides increasing evidence that COVID-19 lockdowns and related restrictions reduced overall subjective wellbeing, although the findings vary substantially depending on the context and intensity of restrictions, the measurement of lockdown exposure, the outcome examined, and the empirical design. Moreover, potentially due to data constraints, most international studies, with the exception of a German study by Schmidtke *et al.* (2024), focus on overall life satisfaction. Consequently, there is limited evidence on whether lockdowns affect specific dimensions of life satisfaction, which may provide insights into the

potential pathways through which lockdowns affect overall life satisfaction. More importantly, the existing literature has largely focused on contemporaneous effects of lockdowns, with limited evidence on their longer-term effects after restrictions have ended.

This study addresses these gaps by examining both overall life satisfaction and eight domain-specific measures of life satisfaction among Australians, while exploiting variation in the duration and timing of local lockdown exposure to investigate long-term effects, including those observed up to four years after exposure.

3. Methodology

3.1. Data

This study draws on two primary data sources. The first is the Household, Income and Labour Dynamics in Australia (HILDA) Survey (Summerfield *et al.* 2025). Initiated in 2001 and conducted annually, this nationally representative panel survey follows individuals in private households over time, providing detailed individual- and household-level data, including residential information and annual measures of life satisfaction. A notable advantage of HILDA is that it continues to follow individuals who relocate, which preserves the representativeness of the sample and permits the use of an individual fixed effects model to estimate robustly the effects of COVID-19 lockdowns on life satisfaction.

We use Release 24, the most recent release of HILDA, which spans 24 waves from 2001 to 2024 in this study. Following previous Australian studies examining the effects of COVID-19 lockdowns on other outcomes (Butterworth *et al.* 2022; Mooi-Reci *et al.* 2023; Schurer *et al.* 2023; Son & Kim 2026; Trinh *et al.* 2026), we employ Wave 11, which was surveyed mostly in 2011, onwards in the baseline regressions. Moreover, we focus on individuals aged 15 years or older, as life satisfaction outcomes are not collected for younger individuals.

The second dataset comprises historical lockdowns across all Australian states and territories, which our research team compiled manually from a range of sources, principally state and local government publications. For each lockdown, the dataset records the start and end dates and the geographic area to which the restrictions applied, specified at the finest available level (postcode), or otherwise as a local government area (LGA), statewide, or nationwide.

As in most previous Australian studies (Botha *et al.* 2023; Feng *et al.* 2024; Kong & Lam 2024; Ketter *et al.* 2026; Salamanca *et al.* 2026), we classify a COVID-19-related restriction event as a "lockdown" if individuals are permitted to leave their homes only for four essential purposes: shopping for essentials; work or education that cannot be undertaken remotely; medical or

compassionate reasons; and outdoor exercise. Our definition of lockdowns therefore includes the initial period of heightened national restrictions, or "partial" lockdown, between 23 March and 31 March 2020, consistent with several studies that use continuous measures of lockdown exposure (Botha *et al.* 2023; Feng *et al.* 2024; Ketter *et al.* 2026). Figure 1 presents a timeline of statewide COVID-19 lockdowns in Australia during 2020 and 2021, illustrating substantial variation in the timing and duration of lockdowns across states and territories during this period.

We link the two datasets by matching the location and timing of each lockdown to each HILDA respondent's residential location and the date on which they completed the Person Questionnaire, which is when the life satisfaction outcomes are measured. Because some lockdowns were applied at the postcode level, we use the restricted-access version of HILDA, which contains postcode identifiers and therefore offers the finest geographical granularity available (Summerfield *et al.* 2025). Figure 1 also shows the distribution of HILDA interviews across the three selected waves (Waves 20–22), some of which were conducted while COVID-19 lockdowns were in effect in 2020 and 2021. The figure shows considerable variation in interview dates across individuals within the same survey wave. Combined with variation in the timing and duration of local lockdowns, this creates substantial differences across individuals in their exposure to local lockdowns.

3.2. Outcome variables

This study examines the effects of COVID-19 lockdowns on individuals' overall life satisfaction, measured using the question, "All things considered, how satisfied are you with your life?". In addition to overall life satisfaction, we examine respondents' satisfaction across eight life domains available in the data. These measures are derived from questions asking respondents about their satisfaction with their employment opportunities (hereafter, "employment opportunity"; applicable only to employed individuals), financial situation ("financial situation"), amount of free time ("free time"), home ("home"), sense of belonging to their local community ("community"), neighbourhood ("neighbourhood"), personal safety ("personal safety"), and health ("health").[3]

[3] Specifically, each life satisfaction outcome is derived from responses to questions introduced as follows: "I am now going to ask you some questions about how satisfied or dissatisfied you are with some of the things happening in your life. I am going to read out a list of different aspects of life and, using the scale on SHOWCARD K5, I want you to pick a number between 0 and 10 that indicates your level of satisfaction with each. The more satisfied you are, the higher the number you should pick. The less satisfied you are, the lower the number" (Summerfield *et al.* 2025). See Appendix Table A1 for variable descriptions and summary statistics.

These life satisfaction measures are available in all survey waves for individuals aged 15 years and above and have been widely used in Australian studies across a range of contexts (Feddersen *et al.* 2016; Nguyen & Duncan 2020; Nguyen *et al.* 2020; Nguyen & Mitrou 2025a). Similar measure of the overall life satisfaction has also been employed in international studies exploring the effects of COVID 19 related restrictions on this outcome (Clark & Lepinteur 2022; Grimes 2022). Respondents rate each outcome on a scale from 0 (completely dissatisfied) to 10 (completely satisfied), with higher scores indicating greater satisfaction. For ease of interpretation and comparability across outcomes, we standardise each measure to have a mean of zero and a standard deviation of one, using the sample of valid responses for each outcome across all waves in HILDA Release 24.

3.3. COVID-19 lockdown exposure measures

We use several measures of COVID-19 lockdown exposure based on different retrospective windows, defined as the number of lockdown days during a specified number of days preceding the Person Questionnaire date, on which life satisfaction is recorded (Summerfield *et al.* 2025). These windows comprise 365 days (approximately one year), 30 days (approximately one month), and 7 days (one week). We use these measures, particularly the preceding 365-day window, because life satisfaction is assessed annually, while the questionnaire does not specify a retrospective reference period for the outcome. Instead, respondents are asked to rate their satisfaction with "the things happening in your life", which suggests that the measure primarily captures their current level of life satisfaction.

Using different retrospective windows allows us to examine whether the effect of lockdown exposure on current life satisfaction varies with the recency of exposure; that is, whether a lockdown day occurring more recently has a different effect from one occurring further in the past. Moreover, the substantial variation in lockdown exposure within extended retrospective windows, such as the preceding year and month, enables us to investigate potential non-linear effects of lockdown duration on life satisfaction.

Specifically, we leverage regional-level policy variation alongside individual-level interview timing and measure lockdown exposure using the exact number of lockdown days. This approach enables us to evaluate the effects of lockdown with greater precision and in greater detail, including by examining potential non-linear effects, thereby improving upon studies that rely on city- or state-level measures to identify a relatively crude dichotomous treatment

effect.[4] To our knowledge, previous international studies examining the effects of COVID-19-related restrictions on life satisfaction have not used a continuous measure of cumulative lockdown exposure based on the number of lockdown days experienced by individuals within a defined retrospective period. Instead, these studies have generally measured lockdown exposure using policy stringency indices (Clark & Lepinteur 2022; Schmid *et al.* 2024), categorical levels of policy restrictions (Grimes 2022), or event time relative to the introduction of lockdown measures (Schmidtke *et al.* 2024).

Figure 2 presents the distribution of three measures of COVID-19 lockdown duration based on three retrospective measurement windows across the three selected HILDA waves (Waves 20–22), which were predominantly surveyed between 2020 and 2022, when COVID-19 lockdowns were in effect in Australia. It shows substantial variation in exposure to lockdowns across individuals surveyed during this three-year period, particularly for the preceding 365-day and 30-day windows and during 2020 and 2021. For instance, among individuals surveyed in Wave 20, 100% experienced at least one lockdown day, with an average of 58 lockdown days during the 365 days preceding their survey date. Among these individuals, 25% experienced at least one lockdown day during the preceding 30 days, with an average of 6.5 lockdown days over this period. Moreover, 24% experienced at least one lockdown day during the preceding 7 days, with an average of 1.64 lockdown days during this period.

Consistent with the timeline of lockdowns presented in Figure 1, substantial variation in these lockdown measures is also observed in the subsequent survey wave, Wave 21, which was predominantly conducted in 2021, when lockdowns remained widespread in some locations across Australia. Notably, considerable variation in lockdown exposure is still observed among individuals surveyed in 2022, despite COVID-19 lockdowns no longer being in effect. Approximately 42% of these individuals experienced at least one lockdown day during the preceding 365 days, and, conditional on experiencing any lockdown days, the average exposure

[4] Previous Australian studies have predominantly employed a dichotomous approach. For example, several studies compare individuals residing in Victoria, which experienced the longest cumulative COVID-19 lockdown in Australia, as the treatment group with those residing in New South Wales or the rest of Australia (Butterworth *et al.* 2022; Mooi-Reci *et al.* 2023; Schurer *et al.* 2023; Mooi-Reci *et al.* 2024; Son & Kim 2026; Trinh *et al.* 2026). Our more detailed lockdown measures are closely related to those used by Kong and Lam (2024), who similarly use earlier HILDA waves to examine the concurrent effects of lockdowns on loneliness. They define treatment as the cumulative number of days individuals experienced lockdown periods lasting more than seven days in 2020 and 2021, up to the interview date of the respective wave. Our measures are also consistent with Salamanca *et al.* (2026), who examine the effects of COVID-19-related school closures, which are highly correlated with broader COVID-19 lockdowns, on parents' labour supply. They similarly define school closure exposure as whether respondents had been subject to stay-at-home orders in the 30 days preceding the interview, which varies by both interview date and location.

was 34 days. This reflects the fact that some individuals were surveyed sufficiently early in 2022 for lockdowns in their residential areas to have occurred within the preceding 365 days.

3.4. Empirical models

We employ an individual fixed-effects (FE) model, together with survey year, survey month, and regional fixed effects, to examine the effects of COVID-19 lockdowns on life satisfaction outcome Y for individual i at time t:

$$Y_{it} = \alpha + \sum_{L=0}^{4} [Z_{i(t-L)}\boldsymbol{\beta}_L] + X_{it}\boldsymbol{\gamma} + \lambda_t + M_{it} + \delta_r + \phi_i + \varepsilon_{it} \quad (1)$$

In Equation (1), the key explanatory variable $Z_{i(t-L)}$ captures COVID-19 lockdown exposure, measured as the number of lockdown days experienced by individual i within a defined retrospective period, as described in Section 3.3. X_{it} represents a set of time-varying explanatory variables. We account for temporal variation in outcomes by including survey year fixed effects, λ_t, and survey month fixed effects, M_{it}. We also account for regional differences by including state/territory fixed effects δ_r. The term ϕ_i denotes individual time-invariant unobserved factors, while ε_{it} is the idiosyncratic error term. The parameters $\alpha, \boldsymbol{\beta}_L$ and $\boldsymbol{\gamma}$ are estimated coefficients, with $\boldsymbol{\beta}_L$ being the primary parameters of interest.

We include a parsimonious set of individual- and household-level time-varying variables in X_{it} to mitigate potential confounding. These variables include the individual's age group, flexibly specified in five-year intervals, education level, marital status, household size, and residence in a major city.

The individual FE specification accounts for unobserved individual heterogeneity, including potentially persistent residential preferences. This is particularly important because areas with certain characteristics may be more likely to experience lockdowns (Schurer *et al.* 2023; Kong & Lam 2024), as also illustrated in Figure 1. By controlling for individual time-invariant unobserved factors, the individual FE specification, combined with the quasi-natural-experiment features of local-area COVID-19 lockdowns, strengthens the identification of the lockdown effects. In particular, the estimated effects ($\boldsymbol{\beta}_L$) are identified from within-individual variation in COVID-19 lockdown exposure across survey periods, arising from changes in lockdown exposure in the local areas in which individuals reside.

Importantly, differences between survey dates and local lockdown dates imply that individuals residing in the same area may experience different levels of exposure to the same lockdown

within a given survey year. For illustration Appendix Figure A1 presents the distribution of survey dates and statewide lockdown dates for New South Wales and Victoria, the two most populous states in Australia. The figure demonstrates substantial variation in survey dates within each state. The temporal alignment between individual survey dates and local-area lockdown events therefore generates additional variation in lockdown exposure and contributes to identification.

The substantial variation in lockdown exposure across individuals and over time provides the identifying variation for our empirical strategy (see Appendix Table A1 for summary statistics). Our specification therefore combines individual, regional, year, and month fixed effects to account for time-invariant individual characteristics, regional differences, and common temporal shocks, while exploiting within-individual variation in lockdown exposure over time to estimate its effects on life satisfaction.

Our empirical individual FE model is closely aligned with those employed by Clark and Lepinteur (2022) to examine the early effects of COVID-19 stringency measures on overall life satisfaction in selected European countries, and by Schurer *et al.* (2023) and Kong and Lam (2024), who use similar HILDA data to investigate the short-term effects of COVID-19 lockdowns on life outcomes and loneliness, respectively. A similar individual FE specification has also been employed to examine the causal effects of natural disasters using the same dataset (Nguyen & Mitrou 2025c, b, a).

We first examine the contemporaneous effect of local-area COVID-19 lockdown exposure ($L = 0$ in Equation (1)), defined as exposure occurring within a specified retrospective period prior to the interview date. Our main specification uses the preceding 365 days, while alternative specifications use shorter retrospective periods, namely the preceding 30 or 7 days. Life satisfaction is measured at the time of the survey. We then examine potential lagged effects by including up to four lags of COVID-19 lockdown exposure in addition to the contemporaneous measure. The available data permit the inclusion of a maximum of four years of lagged exposure ($k = 4$).

To account for potential within-individual serial correlation in the error term, we cluster standard errors at the individual level, given that treatment exposure varies for the same

individual over time (Cameron & Miller 2015). As a robustness check, we also report estimates using alternative levels of clustering and more detailed regional fixed effects.[5]

4. Results

4.1. Concurrent effects of COVID-19 lockdowns on life satisfaction

Estimates from our individual FE model of the three continuous lockdown measures on the nine life satisfaction outcomes, presented in Table 1, show negative and statistically significant effects (at the 1% level) on overall life satisfaction and two domains: satisfaction with employment opportunities and community satisfaction.[6] These results indicate that each additional day of lockdown causes a reduction in overall life satisfaction and satisfaction with these two domains. By contrast, the positive and statistically significant estimates (also at the 1% level) of all three lockdown measures on free-time satisfaction (Column 4, Panels A–C) indicate that longer lockdown exposure causes an increase in satisfaction with free time. However, lockdown exposure has no statistically significant effect on the other four life satisfaction domains—financial, home, neighbourhood, and health satisfaction—as the estimated effects are not statistically significant at any conventional level.

In quantitative terms, each additional day of lockdown during the 365 days preceding the survey date causes a 0.0005 standard deviation (SD) reduction in overall life satisfaction, while each additional day of lockdown during the preceding 30 (7) days causes a 0.0009 (0.0033) SD reduction in this outcome. The substantially larger magnitude of the estimated effect for lockdown exposure closer to the survey date, when life satisfaction is measured, suggests that the effect of a given lockdown day on current overall life satisfaction fades as the time since exposure increases. We observe a similar pattern for the three life satisfaction domains for which the lockdown estimates are statistically significant. The absolute magnitudes of these estimated effects are even greater than that for overall life satisfaction, and they also increase as the retrospective window becomes shorter.

Although the estimated effects of each additional day of lockdown on these selected life satisfaction outcomes are relatively modest, their cumulative magnitude can be more

[5] We use the Stata command reghdfe to run the regressions, which controls for state, survey year, survey month, and individual fixed effects by absorbing these fixed effects. Results are similar if we instead control for these fixed effects by including them as additional control variables using the xtreg command, which takes considerably longer to run.

[6] The estimates for the remaining main explanatory variables, presented in Appendix Table A2, are generally consistent with expectations and broadly align with findings from prior studies (Feddersen *et al.* 2016; Nguyen & Duncan 2020; Nguyen *et al.* 2020; Nguyen & Mitrou 2025a).

substantial when considered in relation to the average number of lockdown days experienced during the COVID-19 lockdown period in Australia. For instance, individuals surveyed in Wave 20, which was predominantly conducted in 2020, experienced an average of 58 lockdown days during the 365 days preceding their survey date. At the estimated effect of 0.0005 SD per lockdown day, this corresponds to a reduction of approximately 0.029 SD in overall life satisfaction (58 × 0.0005). Similarly, seven consecutive lockdown days during the week preceding the survey date would correspond to a reduction of approximately 0.023 SD in overall life satisfaction (7 × 0.0033).[7] The effects are even larger for three life satisfaction domains. For instance, seven consecutive lockdown days during the week preceding the survey date would correspond to a reduction of approximately 0.085 SD in community satisfaction (7 × 0.0122) or an increase of approximately 0.095 SD in free time satisfaction (7 × 0.0136). Moreover, these estimates do not account for potential lagged or delayed effects, which we examine in Section 4.3.

Our finding of a decrease in overall life satisfaction associated with greater COVID-19 lockdown exposure in Australia is consistent with evidence from most developed countries documented in previous international studies (Clark & Lepinteur 2022; Grimes 2022; Foliano *et al.* 2024; Schmidtke *et al.* 2024), with the exception of Schmid *et al.* (2024), who find no statistically significant association between objectively measured local restrictions and life satisfaction in Germany.

Our finding of a negative effect of lockdown exposure on satisfaction with employment opportunities is broadly consistent with that of Schmidtke *et al.* (2024), who also examine the effects of lockdowns on various dimensions of wellbeing and find that job satisfaction declines during lockdowns among German workers, although the two outcomes capture different dimensions of work-related wellbeing. By contrast, Schmidtke *et al.* (2024) find that leisure satisfaction declines during lockdowns, whereas we find a positive effect of lockdown exposure on satisfaction with free time. This difference may reflect differences in the outcomes

[7] In Panel D of Table 1, we also report estimates using a binary lockdown measure indicating whether an individual residing in a local area experienced any lockdown day during the 7 days preceding the survey date. Consistent with the estimates for the three continuous lockdown measures, the estimate for this binary measure is statistically significant and has the same sign for the four life satisfaction outcomes identified above. Moreover, the magnitude of the estimated effect of experiencing any lockdown during the preceding 7 days is approximately equal to the estimated effect of one additional lockdown day multiplied by seven. This pattern is consistent with the distribution of lockdown days during the preceding 7 days shown in Panel c of Figure 2: among individuals who experienced at least one lockdown day, 82% experienced lockdowns on all seven days. These results provide additional evidence that our findings are robust to an alternative measure of lockdown exposure.

examined: their measure captures satisfaction with leisure, whereas our measure captures satisfaction with the amount of free time available.

While further research is needed to explore the mechanisms underlying the effects of COVID-19 lockdowns on overall life satisfaction and the three satisfaction domains affected in our analysis, our findings are broadly consistent with Australian evidence on outcomes closely related to these domains. For instance, our finding of a negative effect of lockdown exposure on satisfaction with employment opportunities is consistent with evidence of reduced labour force participation and increased unemployment during lockdowns in Australia (Guven *et al.* 2023). Similarly, our finding of an increase in free-time satisfaction is consistent with evidence of reduced labour supply during lockdowns (Guven *et al.* 2023), as well as increased working from home and reduced physical movement (Kong & Lam 2024; Ketter *et al.* 2026), which may have increased the time available for non-work and non-commuting activities.

4.2. Non-linear effects of COVID-19 lockdown duration on life satisfaction

This section explores the potential non-linear effects of the two continuous lockdown-duration measures for which there is substantial variation in exposure, namely, the preceding 365-day window and the preceding 30-day window. We do so by flexibly including a categorical measure of lockdown duration, rather than the continuous lockdown measure used in the baseline regression. Specifically, we categorise lockdown duration during the preceding 365 days into five mutually exclusive groups: 0 days (the comparison group), 1–30 days, 31–60 days, 61–90 days, and 91 days or longer. The categories are selected to ensure a sufficient number of observations in each group for reliable estimation.

The results, presented in Figure 3, suggest that the effects of lockdown exposure on the four life satisfaction outcomes identified above are concentrated among individuals experiencing longer lockdown durations, as reflected in the larger absolute magnitudes and greater statistical significance of the estimates for these groups. For instance, for overall life satisfaction, the estimated effect is substantially larger in absolute magnitude and more statistically significant for individuals experiencing 91 days or more of lockdown (−0.06 SD, statistically significant at the 1% level) than for those experiencing 31–60 days (−0.02 SD, statistically significant at the 5% level). Similarly, only the estimates for the two longest lockdown-duration groups (i.e., 61 days or more) are statistically significant for free-time and community satisfaction. For employment opportunity satisfaction, the estimates are statistically significant for all

lockdown-duration groups, but the same pattern of increasingly pronounced effects among individuals experiencing longer lockdown durations is evident.

However, consistent with the baseline regression results, lockdown exposure does not have a statistically significant effect on the other four life satisfaction domains, even among individuals experiencing the longest lockdown durations of 91 days or more during the preceding year. These results provide further evidence of the absence of statistically significant effects of lockdown exposure on these outcomes.

We also explored the potential non-linear effects of lockdown exposure using the preceding 30-day window. Appendix Table A4 presents the results, where we categorise lockdown duration during the preceding 30 days into five mutually exclusive groups: 0 days (the comparison group), 1–7 days, 8–14 days, 15–21 days, and 22–30 days. The table shows that the estimated effects of lockdown exposure on the four life satisfaction outcomes identified above are generally larger in absolute magnitude among individuals experiencing longer lockdown durations, particularly those exposed to 15 days or more of lockdown. Moreover, the estimates for the other four life satisfaction outcomes are not statistically significant, consistent with the baseline results. An exception is personal safety satisfaction, for which the estimates are negative and statistically significant (at the 10% level or better) for the 1–7, 8–14, and 22–30-day groups, but positive and statistically significant at the 5% level for the 15–21-day group. These results suggest that the estimated effects of lockdown exposure on personal safety satisfaction may vary with the duration of exposure. However, these results should be interpreted with caution because of the insufficient number of observations in some lockdown-duration groups to support robust estimation.

Our finding that the effects of COVID-19 lockdowns on selected life satisfaction outcomes are highly non-linear, with effects for most outcomes emerging only when the duration of lockdowns exceeds approximately two months during the preceding year, is consistent with several international studies that also report more pronounced effects under more stringent lockdown conditions (Clark & Lepinteur 2022; Grimes 2022; Foliano *et al.* 2024). However, unlike these previous studies, which use various measures of lockdown stringency, we measure lockdown exposure based on the number of local lockdown days preceding each individual's survey date. This approach allows us to identify an informative threshold in lockdown duration, beyond which the effects of lockdowns on selected life satisfaction outcomes become discernible. These findings provide a more intuitive basis for policy recommendations

concerning the potential wellbeing consequences of prolonged lockdowns in similar future events.

4.3. Longer-term impacts of COVID-19 lockdowns on life satisfaction

This section explores the longer-term impacts of COVID-19 lockdowns by including lagged measures of COVID-19 lockdown exposure alongside the concurrent lockdown measure in the individual fixed-effects model of current life satisfaction outcomes. Our current data, in which the latest wave was surveyed in late 2024 and the first COVID-19 lockdown occurred in March 2020, allow us to include lags of up to four years and thereby examine whether the effects of COVID-19 lockdown exposure persist for up to four years after exposure. To our knowledge, this represents the longest time horizon examined in the literature on the impacts of COVID-19 lockdowns on life satisfaction. For brevity and demonstration purposes, and given the findings from Section 4.1 showing that our results are robust to measuring lockdown exposure at yearly, monthly, and weekly intervals, this section uses the number of lockdown days in the preceding 30 days as the sole measure of COVID-19 exposure.

The results from this analysis, presented in Figure 4, show that the effects of COVID-19 lockdowns on free time and community satisfaction are relatively short-lived, as the estimates are not statistically significant beyond the concurrent year. However, we also find evidence of enduring and delayed effects for overall life satisfaction and several other domains. Specifically, the negative effect of lockdown exposure on overall life satisfaction persists for up to one year after the lockdown, with the estimate for one-year-lagged exposure being negative and statistically significant at the 1% level. The absolute magnitude of this negative effect is even larger (0.0012 SD) than the concurrent effect (0.0009 SD). Similarly, the negative effect of lockdown exposure on employment opportunity satisfaction persists for up to four years after the lockdown, with estimates for all four lagged lockdown variables statistically significant at the 1% level, although their absolute magnitudes are slightly smaller than that of the concurrent lockdown effect.

We also observe delayed effects of lockdown exposure on five satisfaction domains. Specifically, although the estimates of the concurrent lockdown measure for these domains are not statistically significant, some estimates of the lagged lockdown variables are statistically significant at the 5% level or better and are substantial in magnitude. For instance, we find delayed negative effects of lockdown exposure on financial satisfaction in years 2–4 after exposure, home satisfaction in years 2 and 4, neighbourhood satisfaction in year 4, and health

satisfaction in year 1. These findings suggest that the adverse effects of lockdown exposure on these dimensions of life satisfaction may take time to emerge. By contrast, we find a delayed positive effect of lockdown exposure on personal safety satisfaction in years 1 and 2 after exposure, suggesting that lockdown exposure may be associated with higher subsequent perceptions of personal safety during these years. It should be noted that including lagged lockdown exposure does not materially change the estimated effect of the concurrent COVID-19 exposure measure, despite the substantial reduction in sample size resulting from the inclusion of lagged measures. This provides further support for the robustness of our findings.

Overall, the results from this section highlight substantial enduring and delayed effects of COVID-19 lockdowns on life satisfaction, with the patterns varying across different life satisfaction domains. To the best of our knowledge, no comparable findings have been reported in the existing literature. These novel findings, made possible by the use of a longer panel and an empirical framework that exploits within-individual variation in lockdown exposure, provide insights for further research into the longer-term effects of COVID-19 lockdowns and related policies on a range of life outcomes, some of which are closely related to the life satisfaction outcomes considered here. They also have potentially important implications for policies aimed at addressing the longer-term consequences of lockdowns.

4.4. Heterogeneous impacts of COVID-19 lockdowns

To explore potential mechanisms through which COVID-19 lockdowns influence life satisfaction and identify vulnerable sub-populations, drawing on previous studies (Brodeur *et al.* 2021b; Clark & Lepinteur 2022; Schurer *et al.* 2023), we employ the individual fixed-effects model (i.e., Equation (1)) to separately estimate effects within distinct groups defined by six individual, household, or regional characteristics. These characteristics encompass gender (male vs. female), age group (15–24 years, 25–64 years, and 65 years or older), education (Year 12 or below, vocational education and training (VET), and bachelor degree or higher), marital status (never married, married, and separated/divorced or widowed), income group (lower-income vs. higher-income households, defined relative to the median), and urban/rural residence (non-major city vs. major city). For brevity, we use the number of lockdown days in the 30 days preceding the survey date as the only measure of COVID-19 lockdown exposure in this analysis.

Figure 5 presents the heterogeneous results, suggesting some notable differences in the effects of COVID-19 lockdowns across selected subgroups and life satisfaction outcomes. For

instance, Panel a of Figure 5, which reports results for overall life satisfaction, the outcome most commonly examined in previous international studies, shows that individuals aged 15–24 years and major-city residents are more negatively affected by lockdowns than their respective comparison groups. This is reflected in the estimates for these subgroups being more negative and, in some cases, statistically significant relative to those for the respective comparison groups. Additional statistics reported in Appendix Table A6 indicate that these differences are statistically significant at the 5% level for age group, specifically between individuals aged 25–64 years and those aged 15–24 years, and at the 1% level for major-city residence.

However, unlike Clark and Lepinteur (2022), who find that greater policy stringency is associated with significantly lower life satisfaction among females in selected European countries, and Foliano *et al.* (2024), who report similar gender differences in the United Kingdom, our results show no statistically significant difference in the effects of COVID-19 lockdowns by gender in Australia. Although lockdown exposure has a negative effect on overall life satisfaction for both males and females, the estimated effect is more negative and statistically significant at the 1% level among males only.

For employment opportunity satisfaction (Panel b of Figure 5), the negative effects of COVID-19 lockdowns are more pronounced among the youngest group, those aged 15–24 years, than among the two older age groups, among never-married individuals than among married individuals, and among major-city residents than among non-major-city residents.

Panel d of Figure 5 shows that the positive effects of COVID-19 lockdowns on free-time satisfaction are greatest among individuals aged 15–24 years, followed by those aged 25–64 years. The differences in the effects between each of these two age groups and individuals aged 65 years or older are statistically significant at the 5% level or better. The effects are also greater among individuals with VET qualifications than among those with a bachelor degree or higher for this life satisfaction domain.

For community satisfaction (Panel f), never-married individuals are the most negatively affected by COVID-19 lockdowns, with the difference in the estimated effect between never-married and married individuals being statistically significant at the 5% level. Notably, consistent with the findings of the previous Australian study by Schurer *et al.* (2023), which reports a significant decline in sense of community only among men, our results show that the estimated effect of our COVID-19 lockdown measure is also more negative for males than for

females (0.0035 compared with 0.0026). However, unlike Schurer *et al.* (2023), who find that only men report a significant decline in their sense of community, our results show statistically significant decreases in community satisfaction for both genders, at the 1% level. Moreover, the p-value of 0.44 reported in Panel F, Column 1 of Appendix Table A6 indicates that the difference in the effects of COVID-19 lockdowns between males and females is not statistically significant in our study. As noted earlier, differences in the measures of COVID-19 lockdown exposure and the lengths of the datasets used in the two studies may help explain the differences in their findings.

Consistent with the pooled regression results reported in Table 1, which show no statistically significant effects of COVID-19 lockdowns on the other four life satisfaction domains, the subgroup results reported in Appendix Table A6 for these outcomes are generally not statistically significant, suggesting no statistically significant effects for almost all subgroups. There are, however, a few exceptions where the estimates for selected domains are statistically significant at the 5% level or better for particular subgroups, and the differences between subgroups are also statistically significant.

For instance, the positive and statistically significant estimate (at the 5% level) for financial satisfaction among individuals from lower-income households suggests that COVID-19 lockdowns are associated with improved financial satisfaction for this subgroup (Panel c of Appendix Table A6). This improvement is economically meaningful: one additional day of lockdown during the preceding month is associated with an increase of 0.0014 standard deviations in financial satisfaction. This finding is particularly notable given that individuals from lower-income households have, on average, lower levels of financial satisfaction, as reflected in their substantially lower mean standardised score of −0.14 compared with 0.28 among individuals from higher-income households. The p-value reported in Appendix Table A6 further indicates that the difference in the effects of COVID-19 lockdowns on financial satisfaction between the two income groups is statistically significant at the 1% level.

While the precise mechanism underlying this improvement cannot be identied using HILDA, the finding that COVID-19 lockdowns are associated with an improvement in financial satisfaction only among individuals from lower-income households may partly reflect the substantial income support provided by the Australian Government during the pandemic. In particular, the Coronavirus Supplement, introduced in March 2020, provided an additional $550 per fortnight to eligible income-support recipients, approximately doubling the maximum JobSeeker payment for unemployed individuals at the time (Borland 2026). The policy was

strongly concentrated among lower-income households. The Productivity Commission (2024) shows that the initial pandemic income-support measures substantially increased incomes at the lower end of the income distribution and contributed to a marked reduction in income inequality during the early stages of the pandemic. This substantial financial support may therefore have cushioned, and in some cases more than offset, the adverse financial consequences of lockdowns for lower-income households, potentially explaining the positive effect on financial satisfaction observed for this group.

This novel finding is particularly relevant given the adverse financial consequences of lockdowns documented in studies from other countries (Brodeur *et al.* 2021b; Chetty *et al.* 2024). The evidence from Australia of improved financial satisfaction among economically disadvantaged individuals highlights the potential role of public policy in protecting disadvantaged groups during periods of crisis. However, our earlier finding of lasting negative effects of COVID-19 lockdowns on employment opportunity satisfaction, and deferred but lasting negative effects on financial satisfaction, suggests that this positive effect may be short-lived and could diminish or even reverse as government income-support payments are reduced.

Panel i of Appendix Table A6 also shows a contrasting gender difference in the effect of COVID-19 lockdowns on health satisfaction, with the difference being statistically significant at the 1% level. Specifically, the positive estimate of 0.0010 SD for females is statistically significant at the 5% level, suggesting that lockdown exposure is associated with higher health satisfaction among this subgroup. By contrast, the negative estimate of 0.0008 SD for males is statistically significant at the 10% level, suggesting that lockdown exposure is associated with lower health satisfaction among this subgroup. Again, further research into the mechanisms underlying this gender difference is warranted.

5. Robustness checks

5.1. Robustness checks

This section assesses the robustness of our findings to alternative sample restrictions and model specifications, using lockdown exposure during the 30 days preceding the survey date as the sole measure of COVID-19 lockdown exposure. First, we restrict the sample to individuals surveyed from Wave 16 onwards, primarily to ensure that the observation period corresponds to approximately four years following the first COVID-19 lockdown in 2020 (results are presented in Panel B1 of Appendix Table A7). Second, we address potential concerns regarding the effects of migration on our estimates by excluding individuals who moved home since the

previous interview (Panel B2), moved across LGAs (Panel B3), or moved interstate since the previous interview (Panel B4) from the baseline individual FE regressions. Third, we consider alternative modelling approaches and specifications, including controlling for individual panel sampling weights (Panel C1); clustering standard errors at the household level to account for potential spillover effects among family members (Panel C2); clustering standard errors at the LGA level (Panel C3); excluding time-varying covariates, such as age, education, marital status, household size, and major-city residence (Panel C4); excluding month fixed effects (Panel C5); and additionally controlling for relevant time-varying factors, such as interview mode (Panel C6) and local unemployment rates (Panel C7).

Across these robustness checks, our findings remain broadly consistent with the baseline results, which are re-reported in Panel A. In a few cases, the estimated effects of lockdown exposure on overall life satisfaction are less precisely estimated and therefore lose statistical significance, while remaining negative (e.g., Panels B1, C1, and C6).

5.2. Multiple hypothesis testing adjustment

Since we test the effect of COVID lockdowns on nine separate outcomes, relying on conventional p-values from each regression individually raises the risk of false positives: even if lockdowns had no true effect on any outcome, testing multiple hypotheses at once increases the probability that at least one estimate appears statistically significant by chance. To address this, we adjust the baseline p-values using four standard multiple hypothesis testing (MHT) corrections: the Bonferroni correction, which scales p-values by the total number of tests; the Holm step-down procedure (Holm 1979), a less conservative sequential version of Bonferroni; the Benjamini-Hochberg procedure (Benjamini & Hochberg 1995), which controls the false discovery rate rather than the family-wise error rate; and the Romano-Wolf step-down method (Romano & Wolf 2005), which uses bootstrap resampling to jointly re-estimate all outcomes. Among these, the Romano-Wolf method is likely the most robust, as it explicitly accounts for the correlation across outcomes rather than treating each test as independent, which the other three approaches assume.

As shown in Appendix Table A8, the adjusted p-values from all four methods confirm our baseline findings: the effects of COVID lockdowns remain statistically significant at the 5% level or better for overall life satisfaction and for three domains — employment opportunity, free time, and community satisfaction.

6. Conclusion

This study has examined the concurrent and longer-term impacts of COVID-19 lockdowns on various domains of life satisfaction, exploiting quasi-natural variation in the timing and duration of local-area lockdowns and employing an individual fixed-effects model with time and location fixed effects.

Our results show that lockdowns significantly and substantially reduce overall life satisfaction, satisfaction with employment opportunities, and community satisfaction, while increasing satisfaction with free time. These effects are substantial, strongest in the period immediately following lockdowns, and diminish over time. We also find that the effects of COVID-19 lockdowns on these selected life satisfaction outcomes are highly non-linear, with effects for most outcomes emerging only when the duration of lockdowns exceeds approximately two months during the preceding year. Furthermore, while the effects of COVID-19 lockdowns on free-time and community satisfaction are relatively short-lived, their effects on overall life satisfaction and satisfaction with employment opportunities persist for up to four years after the lockdown. We also identify delayed negative effects of lockdowns on financial, home, neighbourhood, and health satisfaction, alongside a delayed positive effect on personal safety satisfaction.

Our comprehensive heterogeneity analysis identifies differential effects across selected population subgroups and subjective wellbeing outcomes. Notably, individuals aged 15–24 years are the most negatively affected by lockdowns in terms of overall life satisfaction and satisfaction with employment opportunities, while the positive effects of COVID-19 lockdowns on satisfaction with free time are also greatest among this youngest age group. Furthermore, major-city residents are more negatively affected by lockdowns in terms of overall life satisfaction and satisfaction with employment opportunities. We also find contrasting effects of COVID-19 lockdowns on health satisfaction by gender: lockdown exposure is associated with higher health satisfaction among females but lower health satisfaction among males. Interestingly, consistent with the substantial financial support provided to lower-income Australians during the pandemic, we find that COVID-19 lockdowns are associated with improved financial satisfaction, although this effect is short-lived and observed only among individuals from lower-income households.

Our findings have several potential policy implications. First, the new evidence of persistent and delayed effects of lockdowns on selected life satisfaction outcomes demonstrates that the

consequences of lockdowns extend beyond their immediate impacts. These longer-term effects should therefore be considered both when formulating policies during lockdowns and when determining whether and when to withdraw policies introduced in response to lockdowns, particularly as COVID-19 lockdowns are no longer in effect. This consideration is important for managing future pandemics or other public health emergencies requiring restrictions on mobility and social interaction.

Second, our evidence of substantial non-linearity in the effects of lockdown duration suggests that the wellbeing consequences of lockdowns may depend critically on their duration. This finding highlights the importance of considering the duration of restrictions, alongside their intensity and coverage, when designing policies to control the spread of infectious diseases. Third, the more pronounced effects observed among certain population groups highlight the importance of targeted policies to support groups that may be particularly vulnerable to the wellbeing consequences of prolonged lockdowns.

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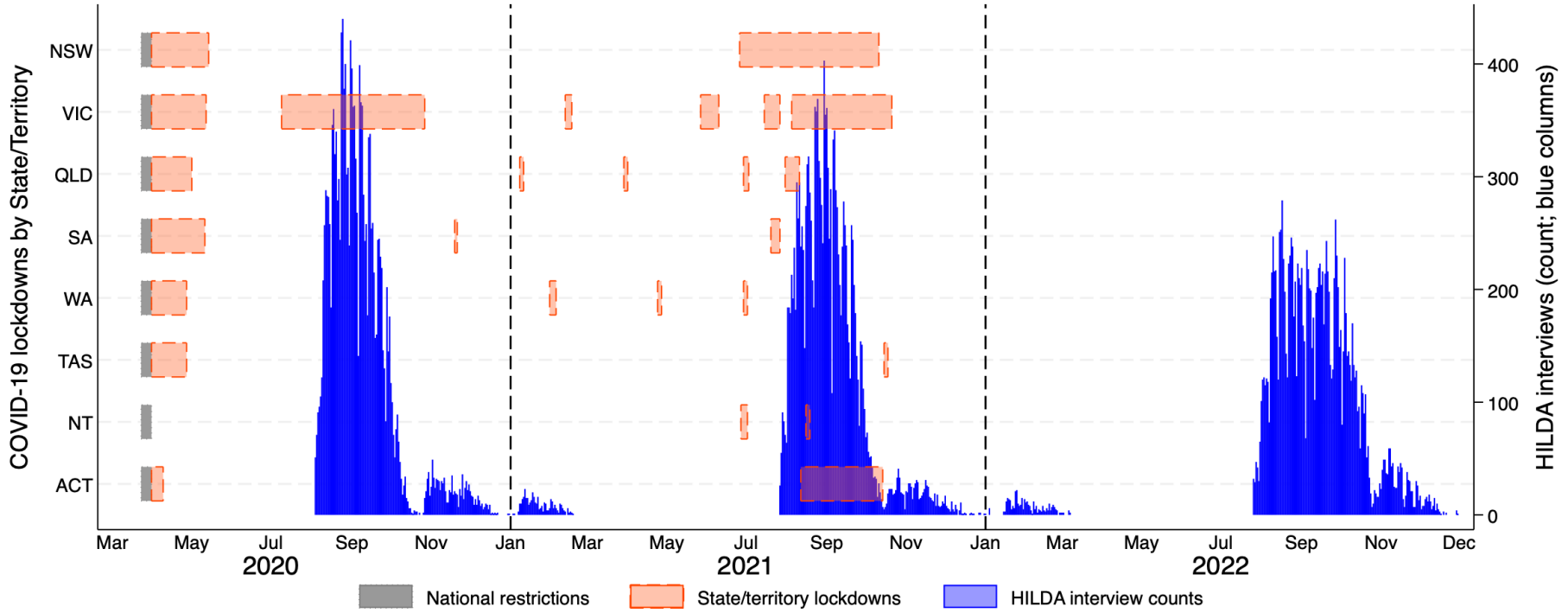
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Table 1: Concurrent impacts of COVID-19 lockdowns measured over different time windows on life satisfaction

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
Measurement window	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Lockdown days in prior 365 days									
Estimate (x100)	-0.05***	-0.09***	-0.01	0.07***	-0.01	-0.06***	0.01	-0.01	-0.02*
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Panel B: Lockdown days in prior 30 days									
Estimate (x100)	-0.09***	-0.30***	-0.01	0.38***	-0.01	-0.30***	0.02	-0.05	0.01
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Panel C: Lockdown days in prior 7 days									
Estimate (x100)	-0.33***	-1.10***	0.01	1.36***	0.08	-1.22***	0.12	0.04	0.10
	[0.13]	[0.16]	[0.12]	[0.14]	[0.14]	[0.14]	[0.13]	[0.13]	[0.11]
Panel D: Any lockdown in prior 7 days									
Estimate (x100)	-2.17**	-7.48***	-0.51	9.09***	0.29	-7.88***	0.56	0.06	0.52
	[0.86]	[1.07]	[0.83]	[0.93]	[0.93]	[0.97]	[0.91]	[0.92]	[0.78]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466

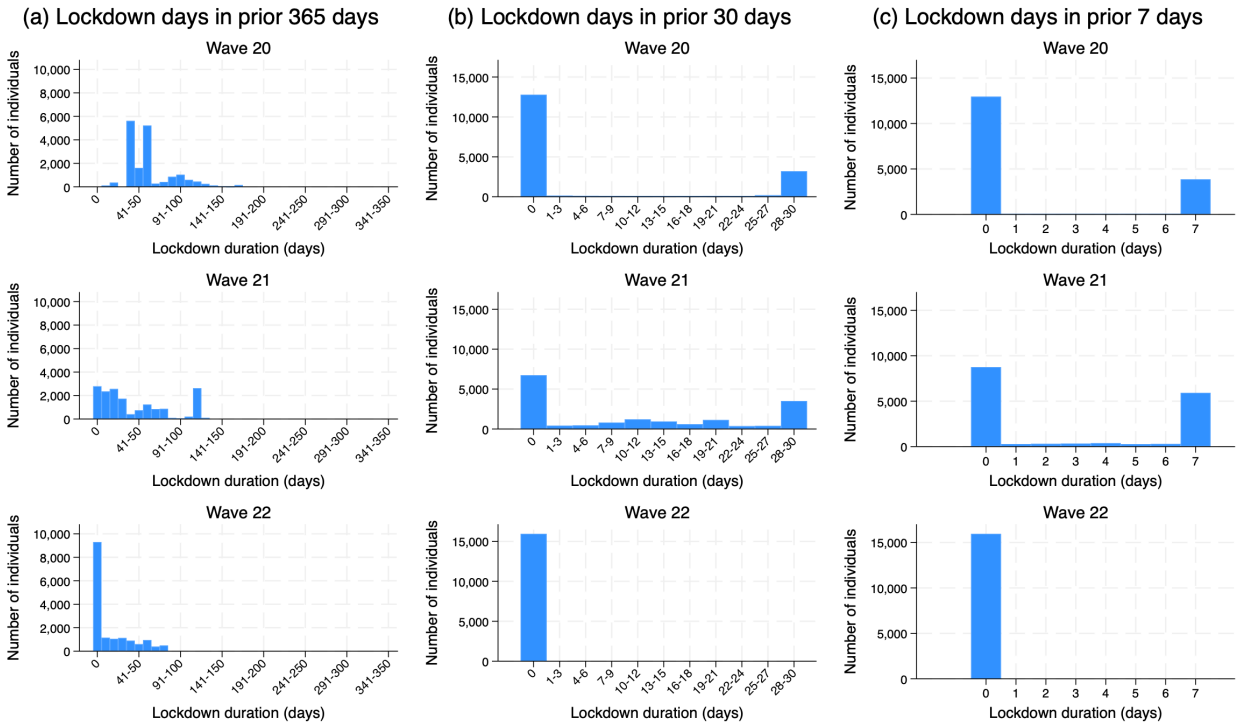
Notes: Results for each column and panel are obtained from an individual fixed-effects regression using the population sample. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age-group, education, marital status, number of household members, and major-city indicator variables. State/territory, survey year, survey month, and individual fixed effects are absorbed. The number of observations and unique individuals (denoted by "Persons") are not reported for Panels A–C because they are identical to those reported in Panel D. Robust standard errors clustered at the individual level are reported in parentheses. The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Remanning results are reported in Appendix Table A2.

Figure 1: Timeline of statewide COVID-19 lockdowns in Australia and HILDA survey dates



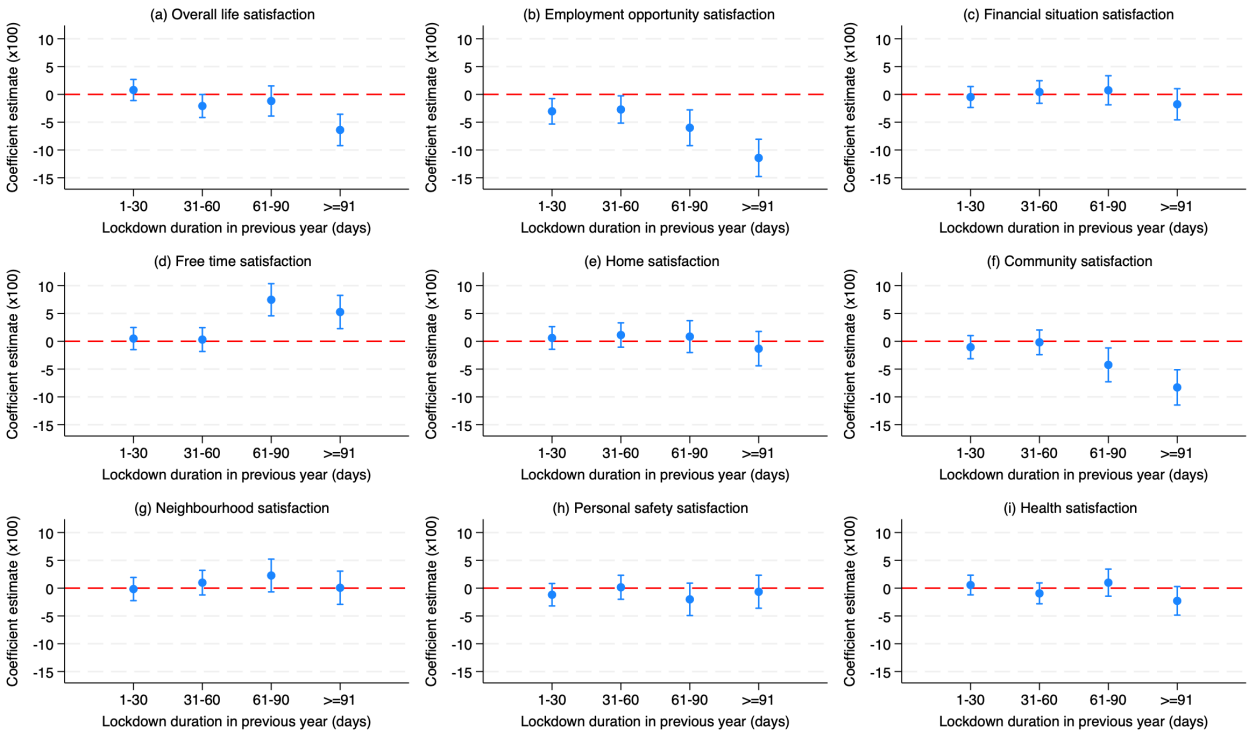
Notes: This figure shows the timeline of state-wide lockdowns in Australia during 2020 and 2021 and HILDA Person Questionnaire dates for Waves 20–22. A statewide lockdown is defined as any period during which stay-at-home orders were in place for the majority of the population in a state or territory, restricting movement except for essential activities. Vertical dashed lines indicate 1 January of each respective calendar year. For presentation purposes, non-statewide lockdowns and HILDA interview counts for approximately 400 observations surveyed in Wave 22 are not shown, as their survey dates were recorded after 2022. The sample comprises individuals with valid Person Questionnaire interview dates in the respective waves. ACT = Australian Capital Territory; NSW = New South Wales; NT = Northern Territory; QLD = Queensland; SA = South Australia; TAS = Tasmania; VIC = Victoria; WA = Western Australia.

Figure 2: Distribution of COVID-19 lockdown duration over three measurement windows by HILDA wave



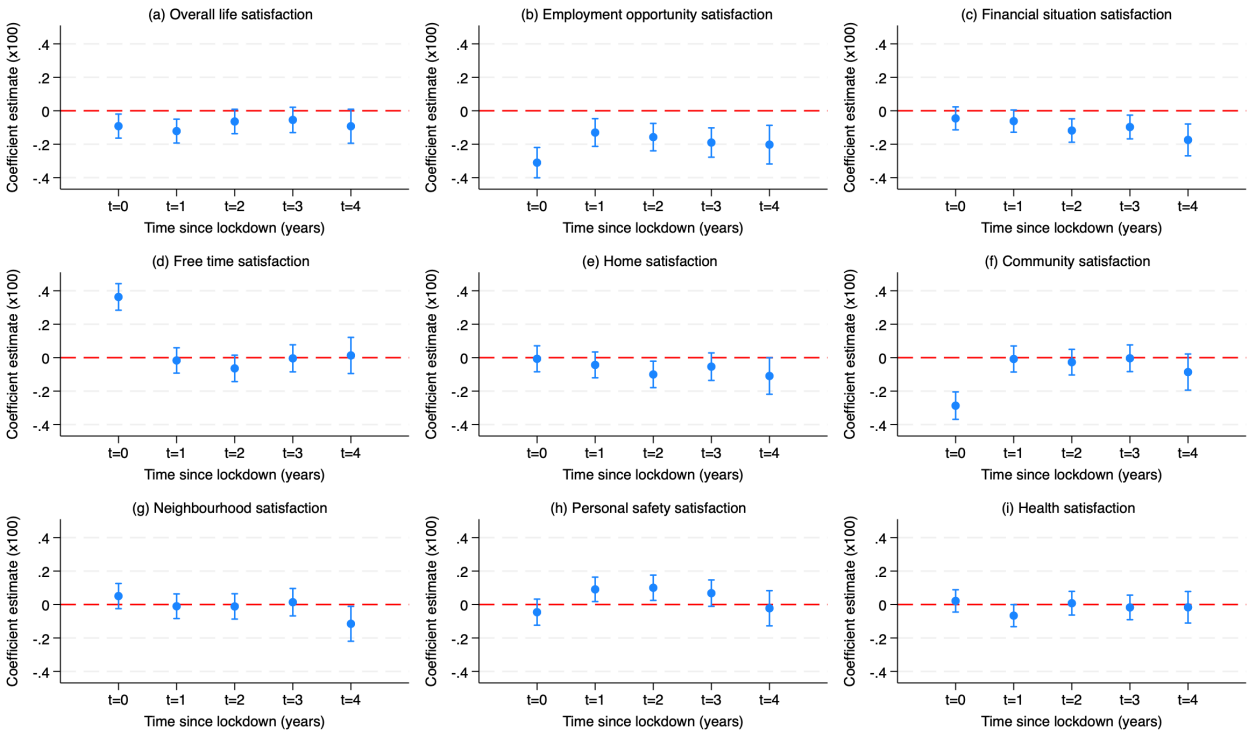
Notes: This figure shows the distribution of lockdown duration over three measurement windows preceding the Person Questionnaire interview date, by HILDA wave, for Waves 20–22. The sample comprises individuals with valid Person Questionnaire interview dates in the respective waves.

Figure 3: Non-linear impacts of COVID-19 lockdown duration over the preceding 365 days on life satisfaction



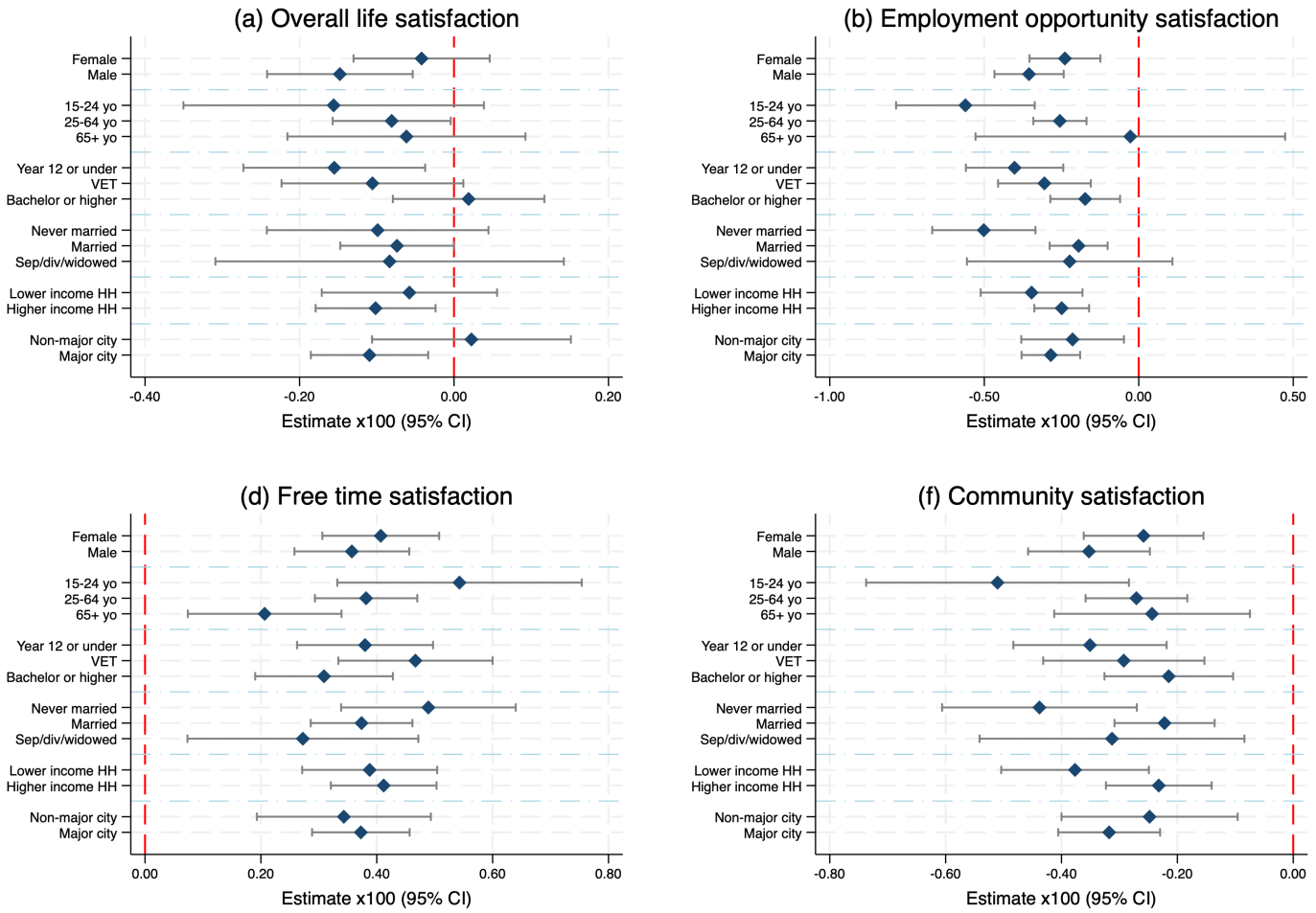
Notes: This figure presents the non-linear effects of COVID-19 lockdown duration over the preceding 365 days on life satisfaction, with individuals who experienced no lockdown days during the preceding 365 days serving as the comparison group. Results for each panel are obtained from an individual fixed-effects regression using the population sample. Estimates and their corresponding 95% confidence intervals are multiplied by 100 for ease of interpretation, with confidence intervals presented as capped error bars. Additional explanatory variables include age group, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Detailed regression results are reported in Appendix Table A3.

Figure 4: Longer-term impacts of COVID-19 lockdowns over the preceding 30 days on life satisfaction



Notes: This figure presents the dynamic effects of COVID-19 lockdowns over the preceding 30 days on life satisfaction. Results for each panel are obtained from an individual fixed-effects regression using the population sample. Estimates and their corresponding 95% confidence intervals are multiplied by 100 for ease of interpretation, with confidence intervals presented as capped error bars. Additional explanatory variables include age group, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Detailed regression results are reported in Appendix Table A5.

Figure 5: Heterogeneous effects of COVID-19 lockdown days during the preceding 30 days on selected life satisfaction outcomes



Notes: Results for each subgroup are obtained from an individual fixed-effects regression using the respective subsample. Estimates and their corresponding 95% confidence intervals are multiplied by 100 for ease of interpretation, with confidence intervals presented as capped error bars. Detailed regression results are reported in Appendix Table A6.

Online Appendixes

For refereeing purposes and to be published online

Appendix Table A1: Variable descriptions and summary statistics

Variable	Description	Mean	Min	Max	Standard deviations		
					Overall	Between	Within
Age (years)	The respondent's age at the survey time (years)	45.65	15.00	100.00	19.14	19.80	3.57
Year 11 or lower	Dummy: = 1 if the individual has completed Year 11 or lower and 0 otherwise	0.26	0.00	1.00	0.44	0.43	0.15
Year 12	Dummy: = 1 if the individual completes Year 12 and zero otherwise	0.15	0.00	1.00	0.36	0.32	0.16
Vocational or Training qualification	Dummy: = 1 if the individual has a vocational or training qualification and zero otherwise	0.32	0.00	1.00	0.47	0.44	0.13
Bachelor or higher	Dummy: = 1 if the individual has a bachelor degree or higher and zero otherwise	0.27	0.00	1.00	0.44	0.42	0.12
Never married	Dummy: = 1 if the individual has never been married at the time of the survey and 0 otherwise	0.24	0.00	1.00	0.42	0.42	0.18
Married/De facto	Dummy: = 1 if the individual is married/de facto at the time of the survey and 0 otherwise	0.63	0.00	1.00	0.48	0.45	0.22
Separated/divorced/widowed	Dummy: = 1 if the individual is separated/divorced/widowed at the time of the survey and 0 otherwise	0.13	0.00	1.00	0.34	0.31	0.14
Household size	Number of household members	2.85	1.00	17.00	1.46	1.32	0.77
Major city	Dummy variable: = 1 if the individual lives in a major city and zero otherwise	0.62	0.00	1.00	0.49	0.46	0.17
Overall life satisfaction (standardised)	Responses to a question "All things considered, how satisfied are you with your life?"	0.01	-5.42	1.42	0.98	0.78	0.64
Employment opportunity satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with their employment opportunity	0.03	-3.06	1.24	0.97	0.84	0.67
Financial situation satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction about the amount of free time they have	0.07	-3.01	1.52	0.96	0.76	0.64
Free time satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with their financial situation	0.03	-2.78	1.31	0.97	0.72	0.68
Home satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with the home in which they live	0.02	-4.51	1.11	0.96	0.71	0.70
Community satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with feeling part of their local community	0.01	-3.10	1.48	0.99	0.77	0.67

Variable	Description	Mean	Min	Max	Standard deviations		
					Overall	Between	Within
Neighbourhood satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with the neighbourhood in which they live	0.001	-4.58	1.22	0.98	0.75	0.69
Personal safety satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with how safe they feel	0.052	-5.26	1.11	0.95	0.71	0.66
Health satisfaction (standardised)	Responses to a question asking the respondents about their satisfaction with their health	-0.020	-3.75	1.41	0.98	0.82	0.59
Lockdown days in prior 7 days	Number of lockdown days in the local area during the 7 days preceding the survey date	0.321	0.00	7.00	1.43	0.53	1.36
Lockdown days in prior 30 days	Number of lockdown days in the local area during the 30 days preceding the survey date	1.280	0.00	30.00	5.59	2.10	5.29
Lockdown days in prior 365 days	Number of lockdown days in the local area during the 365 days preceding the survey date	7.965	0.00	170.00	22.56	9.38	21.27

Notes: Summary statistics are reported for the baseline regression sample for the overall life satisfaction outcome (235,253 observations).

Appendix Table A2: Determinants of life satisfaction – Remaining results

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age 20-24[(a)]	-13.45***	0.97	-7.57***	-21.03***	-13.92***	-10.91***	-5.94***	-11.10***	-9.99***
	[1.26]	[1.35]	[1.46]	[1.36]	[1.46]	[1.51]	[1.59]	[1.36]	[1.21]
Age 25-29[(a)]	-19.10***	4.49**	-9.61***	-36.01***	-21.29***	-5.96***	-4.87**	-16.25***	-11.60***
	[1.71]	[1.87]	[1.89]	[1.86]	[1.97]	[2.02]	[2.11]	[1.84]	[1.62]
Age 30-34[(a)]	-22.68***	5.61**	-11.98***	-47.10***	-23.01***	1.31	-1.95	-21.72***	-12.96***
	[2.09]	[2.28]	[2.21]	[2.26]	[2.36]	[2.37]	[2.49]	[2.21]	[1.97]
Age 35-39[(a)]	-22.86***	3.78	-13.23***	-55.17***	-22.45***	8.54***	-1.38	-23.72***	-11.70***
	[2.49]	[2.76]	[2.56]	[2.68]	[2.79]	[2.76]	[2.86]	[2.59]	[2.32]
Age 40-44[(a)]	-20.29***	5.14	-12.61***	-49.02***	-16.10***	14.31***	3.26	-23.46***	-6.90***
	[2.91]	[3.27]	[2.92]	[3.07]	[3.22]	[3.16]	[3.23]	[3.02]	[2.68]
Age 45-49[(a)]	-13.93***	5.11	-11.95***	-41.85***	-10.73***	15.28***	3.62	-21.63***	-2.66
	[3.32]	[3.78]	[3.29]	[3.47]	[3.62]	[3.56]	[3.59]	[3.44]	[3.07]
Age 50-54[(a)]	-5.16	3.06	-7.00*	-32.02***	-3.37	16.54***	5.28	-17.73***	2.69
	[3.73]	[4.29]	[3.64]	[3.87]	[4.01]	[3.98]	[3.97]	[3.85]	[3.42]
Age 55-59[(a)]	3.95	-0.96	-1.54	-22.56***	2.93	17.91***	5.43	-14.85***	9.38**
	[4.16]	[4.81]	[4.02]	[4.27]	[4.40]	[4.41]	[4.37]	[4.28]	[3.80]
Age 60-64[(a)]	15.35***	-9.05*	1.51	-7.81*	9.68**	18.51***	6.94	-10.39**	14.78***
	[4.57]	[5.37]	[4.40]	[4.68]	[4.81]	[4.86]	[4.77]	[4.70]	[4.18]
Age 65-69[(a)]	27.38***	-4.65	6.64	11.17**	11.99**	23.50***	9.31*	-5.70	24.90***
	[5.00]	[6.04]	[4.79]	[5.11]	[5.23]	[5.31]	[5.18]	[5.14]	[4.58]
Age 70-74[(a)]	33.96***	-8.27	9.32*	18.09***	15.28***	25.90***	9.44*	-0.50	27.92***
	[5.49]	[7.07]	[5.18]	[5.52]	[5.67]	[5.77]	[5.62]	[5.58]	[5.00]
Age 75-79[(a)]	34.24***	-19.77**	9.24	16.46***	13.58**	25.18***	7.16	2.22	26.99***

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	[5.99]	[8.76]	[5.62]	[5.98]	[6.13]	[6.28]	[6.08]	[6.07]	[5.45]
Age 80 and older[a]	31.14***	-28.72**	13.89**	18.90***	11.51*	20.50***	4.76	10.47	24.12***
	[6.52]	[13.13]	[6.07]	[6.48]	[6.63]	[6.80]	[6.62]	[6.61]	[5.96]
Year 12[b]	-8.18***	7.34***	-9.54***	-7.57***	-6.40***	-14.36***	-5.91***	-11.13***	-8.04***
	[1.38]	[1.54]	[1.70]	[1.47]	[1.49]	[1.58]	[1.64]	[1.36]	[1.28]
VET[b]	-4.15**	15.68***	-1.42	-11.13***	-4.76**	-13.09***	-6.66***	-9.59***	-1.86
	[1.85]	[2.01]	[2.03]	[1.94]	[2.07]	[1.97]	[2.14]	[1.83]	[1.73]
Bachelor or higher[b]	-5.80***	15.32***	0.43	-0.24	-9.76***	-16.62***	-8.50***	-10.35***	-6.38***
	[2.00]	[2.17]	[2.39]	[2.35]	[2.31]	[2.30]	[2.49]	[2.02]	[1.89]
Married/De facto[c]	17.75***	-0.28	8.63***	-5.62***	-5.92***	-2.18*	-3.10**	5.16***	1.24
	[1.16]	[1.12]	[1.20]	[1.20]	[1.45]	[1.25]	[1.48]	[1.22]	[1.03]
Separated/divorced/widowed[c]	-5.31**	-5.08**	-8.96***	-2.47	-17.41***	-8.19***	-8.42***	-5.11**	-1.02
	[2.06]	[2.06]	[1.95]	[1.94]	[2.28]	[1.95]	[2.16]	[2.01]	[1.68]
Number of household members	-0.11	-1.00***	-1.04***	-5.15***	1.06***	1.47***	0.74**	1.31***	-0.78***
	[0.26]	[0.27]	[0.27]	[0.29]	[0.32]	[0.28]	[0.32]	[0.27]	[0.24]
Major city	-5.02***	5.48***	-5.51***	-5.41***	-14.98***	-16.38***	-17.37***	-12.65***	-2.66**
	[1.14]	[1.32]	[1.23]	[1.29]	[1.54]	[1.42]	[1.66]	[1.27]	[1.07]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
No of unique individuals	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466

Notes: Results for each column are obtained from an individual FE regression using the population sample. Estimates and standard errors are multiplied by 100 for presentation purposes. Additional explanatory variables include COVID-19 lockdown duration over the 365 days preceding the survey date (results are reported in Table 1), as well as state/territory, survey year, and survey month dummy variables. [a], [b], and [c] indicates "Age 15-19", "Year 11 or lower", and "Never married" as the comparison group, respectively. Robust standard errors clustered at the individual level are reported in parentheses. The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A3: Non-linear impacts of COVID-19 lockdown duration in the preceding 365 days on life satisfaction

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
Lockdown days (preceding 365 days)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1-30 days[(a)]	0.79	-3.04***	-0.47	0.49	0.59	-1.06	-0.16	-1.19	0.56
	[0.97]	[1.17]	[0.96]	[1.02]	[1.04]	[1.06]	[1.06]	[1.03]	[0.90]
31-60 days[(a)]	-2.09**	-2.71**	0.43	0.30	1.13	-0.19	0.99	0.16	-0.94
	[1.05]	[1.25]	[1.04]	[1.09]	[1.12]	[1.13]	[1.13]	[1.10]	[0.96]
61-90 days[(a)]	-1.19	-6.00***	0.74	7.47***	0.84	-4.24***	2.27	-2.02	0.99
	[1.38]	[1.64]	[1.33]	[1.47]	[1.46]	[1.55]	[1.50]	[1.49]	[1.24]
≥91 days[(a)]	-6.39***	-11.42***	-1.78	5.26***	-1.33	-8.30***	0.07	-0.65	-2.29*
	[1.44]	[1.71]	[1.43]	[1.53]	[1.58]	[1.62]	[1.52]	[1.51]	[1.31]
Observations	235,236	185,185	234,940	235,018	235,131	234,608	234,883	235,159	235,232
Persons	24,464	21,905	24,441	24,457	24,469	24,441	24,454	24,461	24,465

Notes: Lockdown duration is measured over the last 365 days prior to the survey date. [(a)] indicates unaffected by lockdown in the last 365 days is the comparison group. Results for each outcome are obtained from an individual fixed-effects regression using a population sample. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age groups, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Robust standard errors clustered at the individual level are reported in parentheses. The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A4: Non-linear impacts of COVID-19 lockdown duration in the preceding 30 days on life satisfaction

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
Lockdown days in the preceding 30 days	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1-7 days[(a)]	-1.05	-3.75	-3.25*	3.76*	-2.36	-2.27	-2.53	-4.57**	1.03
	[1.98]	[2.58]	[1.87]	[2.12]	[2.09]	[2.16]	[2.15]	[2.06]	[1.80]
8-14 days([a])	-0.80	-3.51*	1.14	3.27**	0.36	-2.88*	0.26	-2.80*	-2.01
	[1.55]	[1.93]	[1.45]	[1.57]	[1.68]	[1.68]	[1.55]	[1.62]	[1.38]
15-21 days([a])	-3.68**	-3.78*	-0.80	6.06***	-0.06	-8.34***	-0.24	3.38**	-1.10
	[1.72]	[1.99]	[1.64]	[1.79]	[1.78]	[1.99]	[1.82]	[1.72]	[1.53]
22-30 days[(a)]	-2.35**	-8.72***	-0.29	11.47***	-0.45	-8.46***	0.52	-2.35**	0.67
	[0.98]	[1.22]	[0.95]	[1.08]	[1.06]	[1.12]	[1.03]	[1.06]	[0.88]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466

Notes: Lockdown duration is measured over the last 30 days prior to the survey date. [(a)] indicates unaffected by lockdown in the last 30 days is the comparison group. Results for each outcome are obtained from an individual fixed-effects regression using a population sample. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age groups, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Robust standard errors clustered at the individual level are reported in parentheses. The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A5: Longer-term impacts of COVID-19 lockdown duration in the preceding 30 days on life satisfaction

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
Lockdown days (preceding 30 days), measured at:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Current	-0.09**	-0.31***	-0.05	0.36***	-0.01	-0.29***	0.05	-0.05	0.02
	[0.04]	[0.05]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
1-year lag	-0.12***	-0.13***	-0.06*	-0.02	-0.04	-0.01	-0.01	0.09**	-0.07**
	[0.04]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
2-year lag	-0.06*	-0.16***	-0.12***	-0.06	-0.10**	-0.03	-0.01	0.10***	0.01
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
3-year lag	-0.05	-0.19***	-0.10***	-0.00	-0.05	-0.00	0.01	0.07*	-0.02
	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]
4-year lag	-0.09*	-0.20***	-0.17***	0.01	-0.11**	-0.09	-0.12**	-0.02	-0.02
	[0.05]	[0.06]	[0.05]	[0.06]	[0.06]	[0.06]	[0.05]	[0.05]	[0.05]
Observations	178,216	135,414	178,115	178,041	178,124	177,801	177,972	178,172	178,219
Persons	18,891	16,567	18,879	18,883	18,891	18,878	18,889	18,890	18,888

Notes: Lockdown duration is measured over the last 30 days prior to the survey date. Results for each outcome are obtained from an individual fixed-effects regression using a population sample. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age groups, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Robust standard errors clustered at the individual level are reported in parentheses. The symbols *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A6: Heterogeneity

Separate regression by:	Gender		Age			Education			Marital status			Household income		Major city	
Sub-group:	Female	Male	15-24 yo	25-64 yo	65 plus yo	Year 12 or under	VET	Bachelor or higher	Never married	Married	Separated divorced widowed	Lower income HH	Higher income HH	Non-major city	Major city
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Panel A:	Overall life satisfaction														
Number of lockdown days in the last 30 days	-0.04	-0.15***	-0.16	-0.08**	-0.06	-0.16***	-0.11*	0.02	-0.10	-0.07**	-0.08	-0.06	-0.10**	0.02	-0.11***
	[0.04]	[0.05]	[0.10]	[0.04]	[0.08]	[0.06]	[0.06]	[0.05]	[0.07]	[0.04]	[0.12]	[0.06]	[0.04]	[0.07]	[0.04]
Observations	124,138	111,115	32,703	155,676	45,107	95,954	75,354	63,025	55,087	147,188	31,229	115,121	115,263	89,580	144,662
Persons	12,708	11,757	6,436	17,615	5,519	12,202	8,124	6,584	8,204	16,454	4,029	16,580	16,365	10,589	16,332
Dependent variable mean	0.02	0.00	0.13	-0.08	0.22	0.02	-0.02	0.02	-0.11	0.10	-0.18	-0.07	0.09	0.06	-0.02
P-value difference test	0.57		0.04	0.18	0.40	0.25	0.81	0.13	0.32	0.94	0.60	0.57		0.01	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel B:	Employment opportunity satisfaction														
Number of lockdown days in the last 30 days	-0.24***	-0.35***	-0.56***	-0.26***	-0.03	-0.40***	-0.31***	-0.17***	-0.50***	-0.19***	-0.22	-0.35***	-0.25***	-0.21**	-0.28***
	[0.06]	[0.06]	[0.11]	[0.04]	[0.26]	[0.08]	[0.08]	[0.06]	[0.09]	[0.05]	[0.17]	[0.08]	[0.05]	[0.08]	[0.05]
Observations	94,505	90,689	30,981	141,638	10,614	69,271	60,457	54,520	50,080	116,483	16,892	77,831	102,599	67,384	116,789
Persons	11,208	10,697	6,242	16,802	2,547	10,565	7,462	6,253	7,867	14,853	2,800	13,664	15,128	9,216	14,751
Dependent variable mean	0.01	0.05	0.01	0.03	0.06	-0.09	0.02	0.19	-0.05	0.10	-0.18	-0.20	0.21	-0.01	0.05
P-value difference test	0.29		0.01	0.40	0.04	0.69	0.18	0.07	0.00	0.38	0.22	0.67		0.01	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel C:	Financial situation satisfaction														
Number of lockdown days in the last 30 days	0.00	-0.03	-0.04	-0.02	0.07	0.02	-0.07	0.06	0.02	-0.03	0.14	0.14**	-0.06	0.04	-0.00
	[0.05]	[0.05]	[0.12]	[0.04]	[0.06]	[0.06]	[0.06]	[0.05]	[0.08]	[0.04]	[0.09]	[0.06]	[0.04]	[0.07]	[0.04]
Observations	123,971	110,986	32,519	155,666	45,002	95,692	75,327	63,019	54,894	147,139	31,176	114,903	115,175	89,426	144,522
Persons	12,688	11,754	6,417	17,617	5,510	12,175	8,126	6,584	8,185	16,457	4,020	16,552	16,353	10,576	16,319
Dependent variable mean	0.08	0.07	-0.04	0.01	0.39	-0.01	0.01	0.26	-0.12	0.18	-0.06	-0.14	0.28	0.05	0.09
P-value difference test	0.16		0.84	0.18	0.36	0.32	0.71	0.13	0.30	0.05	0.36	0.00		0.10	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel D:	Free time satisfaction														
Number of lockdown days in the last 30 days	0.41***	0.36***	0.54***	0.38***	0.21***	0.38***	0.47***	0.31***	0.49***	0.37***	0.27***	0.39***	0.41***	0.34***	0.37***
	[0.05]	[0.05]	[0.11]	[0.05]	[0.07]	[0.06]	[0.07]	[0.06]	[0.08]	[0.04]	[0.10]	[0.06]	[0.05]	[0.08]	[0.04]
Observations	124,026	111,009	32,672	155,597	44,995	95,828	75,300	62,987	55,045	147,075	31,164	114,969	115,197	89,471	144,556
Persons	12,703	11,755	6,433	17,616	5,509	12,196	8,123	6,583	8,202	16,456	4,020	16,571	16,362	10,585	16,330

Separate regression by:	Gender		Age			Education			Marital status			Household income		Major city	
Sub-group:	Female	Male	15-24 yo	25-64 yo	65 plus yo	Year 12 or under	VET	Bachelor or higher	Never married	Married	Separated divorced widowed	Lower income HH	Higher income HH	Non-major city	Major city
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Dependent variable mean	-0.01	0.07	0.11	-0.16	0.62	0.15	-0.01	-0.10	0.06	-0.03	0.27	0.10	-0.04	0.09	0.00
P-value difference test	1.00		0.51	0.00	0.02	0.11	0.01	0.35	0.98	0.86	0.87	0.86		0.45	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel E:	Home satisfaction														
Number of lockdown days in the last 30 days	-0.01	-0.01	-0.07	0.01	0.04	0.01	-0.04	0.03	-0.04	0.04	-0.02	0.08	-0.03	-0.01	0.02
	[0.05]	[0.05]	[0.11]	[0.05]	[0.07]	[0.06]	[0.07]	[0.06]	[0.08]	[0.04]	[0.10]	[0.06]	[0.04]	[0.07]	[0.04]
Observations	124,092	111,056	32,673	155,620	45,091	95,910	75,314	63,004	55,060	147,115	31,227	115,066	115,212	89,525	144,611
Persons	12,711	11,759	6,435	17,618	5,522	12,205	8,125	6,584	8,206	16,456	4,030	16,582	16,365	10,587	16,336
Dependent variable mean	0.03	0.01	0.15	-0.09	0.32	0.06	-0.02	0.00	0.01	0.03	0.01	-0.04	0.09	0.06	0.00
P-value difference test	0.58		0.21	0.06	0.98	0.80	0.68	0.49	0.79	0.61	0.78	0.01		0.11	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel F:	Community satisfaction														
Number of lockdown days in the last 30 days	-0.26***	-0.35***	-0.51***	-0.27***	-0.24***	-0.35***	-0.29***	-0.21***	-0.44***	-0.22***	-0.31***	-0.38***	-0.23***	-0.25***	-0.32***
	[0.05]	[0.05]	[0.12]	[0.04]	[0.09]	[0.07]	[0.07]	[0.06]	[0.09]	[0.04]	[0.12]	[0.07]	[0.05]	[0.08]	[0.04]
Observations	123,779	110,846	32,572	155,366	44,913	95,558	75,194	62,953	54,897	146,908	31,075	114,716	115,040	89,326	144,299
Persons	12,693	11,749	6,420	17,604	5,510	12,181	8,120	6,582	8,191	16,448	4,019	16,558	16,342	10,576	16,319
Dependent variable mean	0.04	-0.02	-0.10	-0.03	0.24	-0.03	-0.01	0.09	-0.15	0.08	-0.03	-0.04	0.06	0.10	-0.05
P-value difference test	0.44		0.72	0.95	0.73	0.53	0.16	0.45	0.03	0.11	0.98	0.10		0.75	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel G:	Neighbourhood satisfaction														
Number of lockdown days in the last 30 days	0.06	-0.02	-0.04	0.03	0.15**	0.02	0.06	0.03	-0.01	0.06	0.02	0.03	0.03	-0.01	0.07*
	[0.05]	[0.05]	[0.12]	[0.04]	[0.07]	[0.06]	[0.06]	[0.05]	[0.08]	[0.04]	[0.10]	[0.06]	[0.04]	[0.07]	[0.04]
Observations	123,939	110,961	32,644	155,499	44,989	95,766	75,260	62,960	54,999	147,014	31,146	114,899	115,133	89,417	144,479
Persons	12,700	11,755	6,429	17,610	5,516	12,197	8,123	6,581	8,198	16,452	4,027	16,572	16,352	10,583	16,325
Dependent variable mean	0.01	-0.01	-0.02	-0.05	0.20	-0.02	-0.03	0.07	-0.08	0.04	-0.05	-0.08	0.08	0.05	-0.03
P-value difference test	0.17		0.71	0.11	0.54	0.15	0.00	0.20	0.30	0.88	0.57	0.43		0.96	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel H:	Personal safety satisfaction														
Number of lockdown days in the last 30 days	-0.02	-0.09*	0.01	-0.06	0.06	0.01	-0.10	0.02	-0.04	-0.03	0.03	-0.02	-0.04	-0.14*	-0.00
	[0.05]	[0.05]	[0.11]	[0.04]	[0.08]	[0.06]	[0.07]	[0.06]	[0.08]	[0.04]	[0.11]	[0.06]	[0.04]	[0.07]	[0.04]
Observations	124,106	111,070	32,676	155,644	45,088	95,917	75,335	63,004	55,068	147,146	31,212	115,084	115,225	89,540	144,628

Separate regression by:	Gender		Age			Education			Marital status			Household income		Major city	
Sub-group:	Female	Male	15-24 yo	25-64 yo	65 plus yo	Year 12 or under	VET	Bachelor or higher	Never married	Married	Separated divorced widowed	Lower income HH	Higher income HH	Non-major city	Major city
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Persons	12,706	11,756	6,431	17,617	5,516	12,198	8,125	6,584	8,202	16,456	4,025	16,577	16,365	10,584	16,334
Dependent variable mean	0.01	0.10	0.24	-0.01	0.13	0.05	0.01	0.10	0.05	0.08	-0.10	-0.04	0.14	0.13	0.00
P-value difference test	0.12		0.10	0.00	0.27	0.16	0.50	0.02	0.75	0.08	0.17	0.01		0.86	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.
Panel I:	Health satisfaction														
Number of lockdown days in the last 30 days	0.10**	-0.08*	-0.05	0.02	0.01	0.02	-0.00	0.06	0.07	-0.00	0.04	0.08	-0.02	-0.02	0.04
	[0.04]	[0.04]	[0.09]	[0.04]	[0.07]	[0.05]	[0.05]	[0.05]	[0.07]	[0.03]	[0.10]	[0.05]	[0.04]	[0.06]	[0.04]
Observations	124,145	111,104	32,679	155,689	45,114	95,952	75,344	63,031	55,074	147,190	31,240	115,129	115,252	89,576	144,665
Persons	12,708	11,758	6,435	17,618	5,518	12,200	8,125	6,584	8,204	16,458	4,028	16,581	16,365	10,590	16,334
Dependent variable mean	-0.05	0.01	0.33	-0.05	-0.17	-0.05	-0.08	0.09	0.10	0.00	-0.32	-0.18	0.13	-0.06	0.00
P-value difference test	0.00		0.02	0.10	0.00	0.90	0.17	0.13	0.65	0.78	0.60	0.00		0.73	
Compared to:	Male	n.a.	25-64 yo	65 plus yo	15-24 yo	VET	Bachelor or higher	Year 12 or under	Married	Separated divorced widowed	Never married	Higher income HH	n.a.	Major city	n.a.

Notes: Results for each subgroup and each outcome are obtained from a separate individual fixed-effects regression using the respective subsample. Estimates are multiplied by 100 for ease of interpretation. "P-value difference test" reports the p-value from a test of whether the estimate of the lockdown variable differs between the subgroup shown in this column and the subgroup named in "Compared To". "Compared To" identifies that reference subgroup for each column. "n.a." indicates not applicable. Additional explanatory variables include age group, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Robust standard errors clustered at the individual level are reported in parentheses. The symbol * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Appendix Table A7: Robustness checks

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Baseline									
Estimate	-0.09***	-0.30***	-0.01	0.38***	-0.01	-0.30***	0.02	-0.05	0.01
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466
Panel B1: Different sample - Wave 16 onwards									
Estimate	-0.06*	-0.28***	0.02	0.40***	0.05	-0.26***	0.06*	0.02	0.03
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Observations	148,705	114,213	148,503	148,580	148,633	148,311	148,504	148,656	148,699
Persons	21,117	17,977	21,097	21,114	21,121	21,099	21,106	21,116	21,118
Panel B2: Different sample - Excluding individuals who moved home since last interview wave									
Estimate	-0.09***	-0.28***	-0.01	0.37***	0.00	-0.25***	0.06	-0.03	0.02
	[0.04]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
Observations	192,080	146,864	191,823	191,886	191,999	191,685	191,868	192,012	192,074
Persons	22,665	20,096	22,645	22,658	22,666	22,642	22,654	22,660	22,665
Panel B3: Different sample - Excluding individuals who moved home inter-LGA since last interview wave									
Estimate	-0.09***	-0.28***	-0.02	0.37***	-0.00	-0.27***	0.05	-0.05	0.02
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
Observations	208,573	161,582	208,297	208,367	208,477	208,095	208,308	208,507	208,566
Persons	23,049	20,528	23,029	23,042	23,049	23,029	23,037	23,048	23,048

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel B4: Different sample - Excluding individuals who moved home inter-state since last interview wave									
Estimate	-0.09***	-0.30***	-0.01	0.39***	-0.00	-0.29***	0.03	-0.05	0.02
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Observations	222,516	174,052	222,232	222,299	222,414	221,944	222,189	222,445	222,505
Persons	23,301	20,796	23,277	23,290	23,302	23,279	23,288	23,299	23,298
Panel C1: Different specification - Adjusting for sampling weight									
Estimate	-0.07	-0.24***	0.06	0.36***	0.04	-0.27***	0.05	0.00	0.03
	[0.04]	[0.05]	[0.04]	[0.04]	[0.05]	[0.05]	[0.04]	[0.05]	[0.04]
Observations	233,060	183,871	232,824	232,863	232,959	232,473	232,782	232,990	233,061
Persons	24,242	21,732	24,221	24,238	24,247	24,220	24,235	24,241	24,244
Panel C2: Different specification - Clustering at the household level									
Estimate	-0.09***	-0.30***	-0.01	0.38***	-0.01	-0.30***	0.02	-0.05	0.01
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466
Panel C3: Different specification - Clustering at the LGA level									
Estimate	-0.09**	-0.30***	-0.01	0.38***	-0.01	-0.30***	0.02	-0.05	0.01
	[0.04]	[0.05]	[0.04]	[0.04]	[0.04]	[0.05]	[0.05]	[0.05]	[0.04]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466
Panel C4: Different specification - Excluding time-variant variables such as age, education, marital status, household size, and major city									
Estimate	-0.09***	-0.29***	-0.01	0.38***	-0.02	-0.31***	0.02	-0.06	0.01

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466
Panel C5: Different specification - Excluding month fixed effects									
Estimate	-0.08**	-0.32***	-0.01	0.37***	-0.02	-0.32***	0.00	-0.06*	-0.00
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.03]	[0.04]	[0.03]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466
Panel C6: Different specification - Additionally controlling for mode of interview (i.e., telephone or in-person)									
Estimate	-0.06*	-0.29***	-0.04	0.37***	0.03	-0.30***	0.03	-0.03	-0.03
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
Observations	235,238	185,181	234,942	235,020	235,133	234,610	234,885	235,161	235,234
Persons	24,464	21,904	24,441	24,457	24,469	24,441	24,454	24,461	24,465
Panel C7: Different specification - Additionally controlling for local unemployment rates									
Estimate	-0.08**	-0.21***	0.04	0.36***	-0.01	-0.31***	0.03	-0.05	0.01
	[0.03]	[0.04]	[0.03]	[0.04]	[0.04]	[0.04]	[0.04]	[0.04]	[0.03]
Observations	235,253	185,194	234,957	235,035	235,148	234,625	234,900	235,176	235,249
Persons	24,465	21,905	24,442	24,458	24,470	24,442	24,455	24,462	24,466

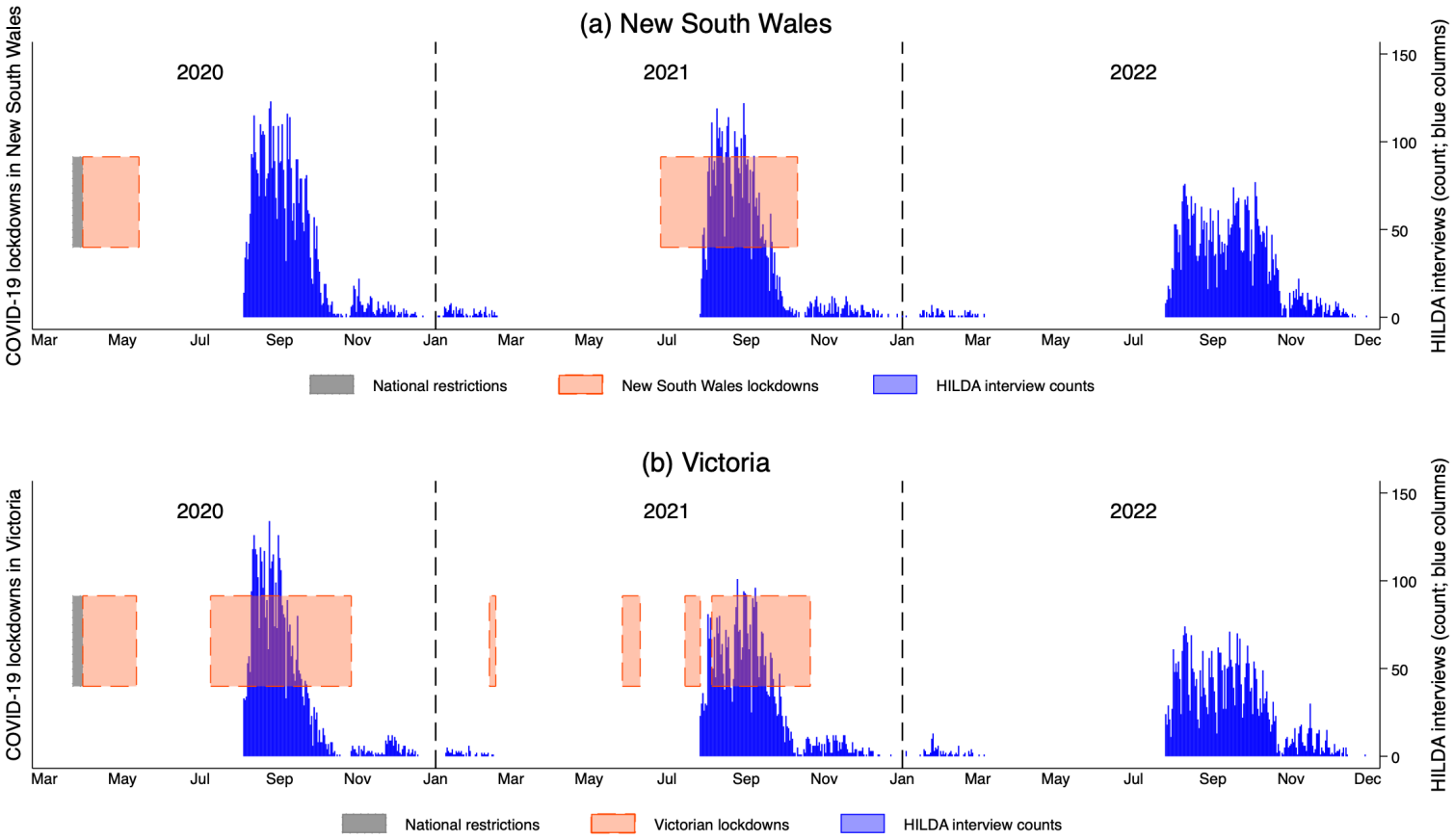
Notes: Results are obtained from an individual FE regression using a population sample, unless stated otherwise. Lockdown duration is measured in the 30 days prior to the survey date, unless stated otherwise. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age groups, education, marital status, number of household members, and a major-city indicator, unless stated otherwise. State/territory, survey year, survey month, and individual fixed effects are absorbed, unless stated otherwise. Robust standard errors clustered at the individual level, unless stated otherwise, are reported in parentheses. The symbol * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Appendix Table A8: Robustness checks - Multiple hypothesis testing adjustment

Outcome:	Overall life satisfaction	Employment opportunity satisfaction	Financial situation satisfaction	Free time satisfaction	Home satisfaction	Community satisfaction	Neighbourhood satisfaction	Personal safety satisfaction	Health satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Estimate (x100)	-0.092	-0.296	-0.010	0.383	-0.010	-0.302	0.022	-0.052	0.015
p-value (Conventional)	0.005	0.000	0.745	0.000	0.775	0.000	0.519	0.140	0.624
p-value (Bonferroni)	0.046	0.000	1.000	0.000	1.000	0.000	1.000	1.000	1.000
p-value (Holm)	0.030	0.000	1.000	0.000	1.000	0.000	1.000	0.698	1.000
p-value (Benjamini-Hochberg)	0.011	0.000	0.775	0.000	0.775	0.000	0.775	0.251	0.775
p-value (Romano-Wolf)	0.030	0.002	0.934	0.002	0.934	0.002	0.934	0.497	0.934

Notes: Results are obtained from an individual fixed-effects regression using a population sample. Lockdown duration is measured in the 30 days prior to the survey date. Estimates are multiplied by 100 for ease of interpretation. Additional explanatory variables include age groups, education, marital status, number of household members, and a major-city indicator. State/territory, survey year, survey month, and individual fixed effects are absorbed. Romano-Wolf p-values are obtained from 500 bootstrap replications.

Appendix Figure A1: Timeline of statewide COVID-19 lockdowns in New South Wales and Victoria and HILDA survey dates



Notes: This figure shows the timeline of statewide lockdowns in New South Wales and Victoria during 2020 and 2021 and the HILDA Person Questionnaire dates for individuals residing in the respective states in Waves 20–22. A statewide lockdown is defined as any period during which stay-at-home orders were in place for the majority of the state's population, restricting movement except for essential activities. Vertical dashed lines indicate 1 January of each calendar year. For presentation purposes, non-statewide lockdowns and HILDA interview dates for approximately 100 observations in each state surveyed in Wave 22 are not shown, as their survey dates were recorded after 2022. The sample comprises individuals with valid Person Questionnaire interview dates in the respective waves.