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David W. Johnston
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David W. Johnston

Monash University

Rachel J. Knott

Monash University

Nidhiya Menon

Brandeis University and IZA

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IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Gender Identity Norms, Mental Health, and Relationship Strain*

Although studies have evaluated the costs of violating the male breadwinner norm, little is known about the mental health consequences, particularly for common conditions such as depression and anxiety. We explore this issue using Australian national administrative tax and healthcare records. We estimate individual- and employer-level fixed models of mental health service use and prescription medication. We find that men are significantly more likely to use mental health care following periods when their wife earns more, with the strongest effects emerging two years after the earnings shift. By contrast, we find no consistent effects for women. Our results are robust to alternative specifications, including the inclusion of controls for labour market shocks, and an alternative estimation strategy based on a local linear regression discontinuity design. We further rule out anticipation effects and reverse causality. We find that couples are also more likely to separate following norm violations, suggesting relationship strain as a key mechanism. Complementary evidence on relationship satisfaction from Australian household survey data provide further support of this pathway. Overall, our findings demonstrate that traditional gender identity norms continue to impose psychosocial costs within modern households.

JEL Classification: D10, J12, J16, J31, J22, I10, I12

Keywords: relative income, mental health, medication, relationship strain, separation

Corresponding author:

Nidhiya Menon
MS 021
Department of Economics
Brandeis University
Waltham, MA 02453
USA

E-mail: nmenon@brandeis.edu

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1. Introduction

The evidence highlighting that mixed-gender marriages are governed by traditional norms is inconclusive (Binder and Lam 2022). These traditional norms include that married women should be shorter, younger, and lower-earning than their spouses. We focus on the last of these traditional gender norms, the ‘male breadwinner’ norm. Despite substantial shifts in labour market participation and household roles over recent decades, the male breadwinner model, which prescribes that men should serve as the primary income earner in heterosexual households, while women take primary responsibility for domestic work and caregiving, remains influential. This norm is pervasive across countries and does not discriminate by the level of economic growth or overall standing on gender equity. Traditional attitudes on gender roles can result in sizable economic costs as their effects are multi-dimensional, affecting aspects such as labour market participation rates, the gender earnings gap, child penalties, and the division of labour in home production (Kleven et al. 2019, Kleven et al. 2024). Alternatively, deviating from the prescribed gender-appropriate behaviour may be inherently socially costly.

This study contributes to the literature by exploring the consequences of violations of the male breadwinner norm on new outcomes – those related to common mental health issues, such as depression and anxiety. It does so by estimating how the circumstance of a wife earning more than her husband affects mental health care usage in partnerships, while incorporating critiques raised by recent literature (Binder & Lam, 2022). We find that the marital strain that likely results from deviations from prescribed socially-expected behaviour has a disproportionately negative impact on men’s mental health.

An influential economic study on the breadwinner norm is Bertrand et al. (2015), which documents a significant discontinuity in the ratio of male-to-female earnings beyond 0.5, implying that American couples actively avoid circumstances in which women out-earn their husbands. It also finds that these situations are associated with a higher likelihood of future divorce, and in partnerships that stay intact, wives who out-earn their husbands also take on a greater share of home production. Recent studies have built on this evidence, a prominent example being Folke and Rickne (2020), which uses Swedish data to show that high-level promotions increase the probability of divorce among promoted women but not among promoted men. They conclude that for women in ‘traditional’ marriages, a promotion is likely to cause strain in the relationship. Similarly, Lippmann et al. (2020) explores the importance

of economic institutions in mediating the effects of norms. The study shows that during socialism in East Germany, institutions incentivised women's labour market participation, instilling more equal gender norms and circumstances where women could out-earn their husbands without increasing marital strain. In contrast, the male breadwinner norm and its consequences are still prevalent in West Germany where such institutions remained absent. Another related paper is Foster and Stratton (2021), which uses data from the Household, Income and Labour Dynamics in Australia (HILDA) surveys as well as the National Longitudinal Survey of Youth (NLSY) in the United States to report statistically insignificant associations between wives out-earning their husbands and marital dissolution in linear models. Female breadwinning, however, appears to be more salient for young unmarried couples - the study finds evidence that women in cohabiting but unmarried relationships who have higher relative income compared to their partners are more likely to subsequently re-partner with men with higher relative earnings.

While the studies discussed above offer broad support for the findings in Bertrand et al. (2015), other studies have cast doubt on the robustness and generalisability of that study's results. For instance, Hederos and Stenberg (2022) use Swedish data to show that the discontinuity in the ratio of male-to-female earnings beyond 0.5 is primarily driven by couples with equal earnings. Zinovyeva and Tverdostup (2021) and Binder and Lam (2022) similarly question the results in Bertrand et al. (2015) by providing evidence from Finland and the United States, respectively. These papers contend that the observed discontinuity is caused by the earnings equality of couples who either jointly own a business, where tax incentives encourage income-splitting, or work for the same employer, where wage transparency and coordinated bargaining may occur between spouses. In light of these critiques, Binder and Lam (2022) recommends: (1) defining the main variable of interest as wives earning 'equal to or greater than' their husbands, (2) excluding observations where men and women have the same earnings, and (3) controlling for working in the same occupation or for having the same source of income. We follow these recommendations, and in order to ensure that our sample meets all relevant criteria, go further by excluding couples who work for the same employer and exclude couples who ever had business income in tax records or reported owning a business.

Our study uses panel data from the Australian Bureau of Statistics' (ABS) Person-Level Integrated Data Asset (PLIDA), which links administrative records for the full Australian population across multiple government agencies. Our analysis draws on information from three

main components of PLIDA: income tax data from the Australian Taxation Office (ATO); healthcare usage data accessed under Medicare, Australia's publicly funded universal healthcare system available to all Australian residents (which includes mental health care services and prescription medications); and the 2011 Census of Population and Housing. We complement the administrative data with twenty waves of HILDA survey data, which provide subjective measures that shed light on the mechanisms linking norm violations to relationship strain and mental health.¹

Australia is a relevant context to explore violations of the breadwinner norm. Data from the Australian HILDA survey illustrates that when asked whether they agreed with the statement "It is better for everyone involved if the man earns the money and the woman takes care of the home and children," 47% of respondents were neutral or expressed agreement, including 53% of men and 42% of women. Only 19% of men and 31% of women strongly disagreed with the statement.² These attitudes suggest that male financial provision remains a salient normative expectation, even as formal equality has advanced in the country.

Since violating the male breadwinner norm is likely to have gender-differentiated impacts, we estimate separate models for men and women. The main variable of interest is a binary indicator equal to 1 when the wife earns more than her husband in a given year. Our empirical specification flexibly controls for relative income (wife's share of total household wage income) as well as individual fixed effects, employer (workplace) fixed effects and state-by-year fixed effects. A saturated model of this nature allows us to identify the effect of the key indicator variable, the dummy for wife earns relatively more, net of overall income levels, individual characteristics, workplace factors, and time-varying regional determinants.

In our sample, about 78.5% of men and 21.5% of women have a higher annual income than their spouse.³ We begin our analysis by examining how the effects of norm violations unfold over time, finding that for men, a significant impact emerges in the second year after the wife becomes the primary earner. In particular, men are 0.289 percentage points more likely to use

¹ The HILDA Survey is a nationally representative longitudinal study that has followed Australian households annually since 2001, collecting information on income, employment, family, health, and wellbeing. We describe the dataset and our use of it in a mechanisms analysis in more detail in Section 5.1.

² Households with more unequal income splits report stronger support for male breadwinner norms on average (though, of course, there is considerable heterogeneity across couples). These numbers are based on responses from all six waves that this question was included in the HILDA survey up to wave 20 – i.e. 2001, 2005, 2008, 2011, 2015, 2019.

³ Within households where the wife earns more, the median gap between wife's income and husband's income is 35%.

mental-health related care (doctor/psychologist visits and prescribed medications) two years after a breadwinner shift (p -value = 0.013). In terms of magnitude, this represents approximately a 2.2% increase in mental health-related care relative to the sample mean. By contrast, results for women are smaller in magnitude and imprecisely measured. These results suggest that men may internalize the breadwinner role more strongly, making violations more consequential for their mental health.

We next explore which component of mental health care (services or medications) is most responsive to norm violations. On average, the effects are largest for medication use, while the results for women are measured imprecisely. We then evaluate whether the consequences depend on whether changes in traditional income roles are persistent or temporary arrangements. Stratifying couples by the number of times they cross the 0.5 relative income threshold reveals that violations have stronger effects when they are persistent changes (and thus, possibly more disruptive of accepted marital gender norms) within partnerships.

To investigate mechanisms, we examine relationship strain, peer income comparisons, and other health pathways. Our main results are robust to the inclusion of peer income comparison variables across multiple dimensions of peers, suggesting that it is income comparisons within the household, rather than relative to peers, that drive the observed effects. We also find no evidence that the mental health impacts operate through broader physical health pathways. Instead, relationship strain emerges as the key channel: the likelihood of separation rises significantly two years after the norm is violated. Complementary survey data from HILDA also suggest that violations of the male breadwinner norm generate strain within couples, but the consequences manifest differently by gender: women report lower satisfaction with their relationship, while men experience declines in self-reported mental health. This pattern is consistent with the idea that breadwinning is more central to men's identity, while for women the costs may be felt through relationship quality. Heterogeneity analyses suggest that the effects are largest among men born in Australia, younger couples (where the eldest spouse is below 45 years), couples with dependent children, and those reporting a religious affiliation.

In empirical specification checks, we implement an alternative local linear regression discontinuity design (after undertaking standard manipulation tests) which yields very similar estimates to those of our preferred model, reinforcing the robustness of our main findings. Additional checks include conditioning on age fixed effects, replacing state-year fixed effects with city-year fixed effects in order to control for more disaggregate time-varying omitted

variables, including controls for labour market shocks, and clustering standard errors at different spatial levels. In all instances, our main results remain mostly unaltered. We also rule out anticipation effects and reverse causality. In sum, our findings suggest that violations of the male breadwinner model have significant detrimental mental health consequences for men. In contrast, estimated impacts are relatively small and imprecisely estimated for women across the range of specifications we consider.

A recent study that also investigates relative income and mental health is Getik (2024). Using Swedish data and a local linear regression discontinuity framework, the study shows that when wives cross the 0.5 relative income threshold, the likelihood of a mental health diagnosis increases, particularly for men. Important data and methodological differences, however, distinguish our study. We draw on administrative records that capture all medication use, whether prescribed by primary care physicians (i.e. General Practitioners) or specialist doctors, as well as mental health services delivered in primary and allied health care settings (e.g. psychology sessions) under Australia's universal healthcare scheme. This focus captures the most common pathways through which Australians access care for conditions such as depression and anxiety. By contrast, Getik (2024) focuses on more severe mental health outcomes diagnosed in specialist care settings, which are much less prevalent. The study also does not find evidence of divorce being a likely mechanism, nor does it analyse other aspects of relationship health. Methodologically, and as we discuss in detail below, we evaluate mental health consequences in subsequent years to the year in which intra-household earnings structures change, ruling out contemporaneous reverse causality.⁴

The remainder of the paper is organised as follows. Section 2 introduces the administrative data sources and outlines the sample construction. Section 3 describes the empirical methods. Section 4 presents the main results and robustness checks. Section 5 investigates potential mechanisms, while Section 6 reports heterogeneity analyses. Section 7 concludes.

2. Data

⁴ An earlier paper in the psychology literature is Pierce et al. (2013), which examines the impact of spousal wage differences on psychological costs primarily in the form of men's use of medications to treat erectile dysfunction (ED). Pierce et al. (2013) uses a regression discontinuity design (without individual-level fixed effects) to find an increase in ED medication usage amongst men who earn slightly less than their wives, compared to men who earn slightly more.

We use data from the Australian Bureau of Statistics' (ABS) Person-Level Integrated Data Asset (PLIDA), which links administrative records for the full Australian population across multiple government agencies (ABS 2025).⁵ Our analysis draws on information from three main components of PLIDA: income tax data from the Australian Taxation Office (ATO); healthcare usage data accessed under Medicare, Australia's publicly funded universal healthcare system available to all Australian residents; and the 2011 Census of Population and Housing.

2.1 Mental Health Outcomes

In Australia, healthcare services are subsidised under the Medicare Benefits Schedule (MBS), and pharmaceuticals are subsidised under the Pharmaceutical Benefits Scheme (PBS), allowing us to separately observe mental health service use (from MBS item codes) and mental health-related medication use (from Anatomical Therapeutic Chemical (ATC) codes). All Australian residents can access subsidised mental health treatment through a general practitioner (GP) if diagnosed with a condition such as depression or anxiety.⁶ GPs first conduct a mental health assessment to determine whether a Mental Health Treatment Plan is warranted. If a plan is initiated, individuals may access up to 10 subsidized sessions per year with eligible mental health professionals. We identify item codes for the preparation and review of these plans, as well as for individual and group psychological therapy sessions delivered under the plan.⁷

GPs and specialist doctors may also prescribe medications to treat mental health conditions.⁸ From PBS records, we identify prescriptions filled for antidepressants (ATC code N06A), anxiolytics (N05B), and sedatives/hypnotics (N05C). We focus on these three medication classes because they align with the hypothesised psychological responses to relationship strain; namely, symptoms of depression, anxiety, and sleep disturbance. In contrast, conditions such as schizophrenia or bipolar disorder are less plausibly linked to household income role changes.

⁵ See Appendix A for further details about PLIDA, including data linkage.

⁶ GPs in Australia function much like U.S. primary care doctors, typically providing the first line of care when patients access the health system.

⁷ Individual psychological therapy sessions and group sessions can be offered by eligible psychologists and other allied mental health service providers.

⁸ Approximately, 85% of mental health related medications were prescribed by GPs in 2022-23 (AIHW 2024), with the remainder prescribed by specialist doctors (both Psychiatrists and non-psychiatrist specialists). We include all prescriptions in our dataset.

Our primary outcome is a binary indicator for any use of these services or medications within a financial year,⁹ aligned with the measurement of household income in PLIDA.

2.2 Income, Employers and Separations

From the income tax records, we extract wage and salary income as our primary measure of individual earnings, given its salience in intra-household comparisons.¹⁰ In Australia, employers are required to report salary and wage payments for each employee to the ATO, which form the basis of the wage and salary income used in our analysis. The tax data also include anonymized employer identifiers, which we use to construct employer fixed effects. We identify business owners based on self-reports in the Census and business income reported in tax filings, which we use in our sample restrictions.

Tax records also include information on spousal status, with individuals required to report whether they had a spouse for the full financial year or part of it. For tax purposes, a spouse is defined as a person with whom the individual lived in a genuine domestic relationship at any point during the year. If a person had more than one spouse in the year, they are instructed to report the most recent one. We use this information both to define our initial sample and to identify separations, defined as cases in which a couple was recorded as partnered for the full year and subsequently reported being partnered for part or none of the following financial years.

2.3 Sample Construction

We identify all opposite-sex married couples in the 2011 Census in which both spouses were aged 25 or older, had positive wage income in the 2011–12 financial year, and remained co-resident and partnered for the full year. We begin measuring mental health outcomes in the 2012–13 financial year, which marks the first full year of comprehensive PBS coverage. Prior to April 2012, the PBS only recorded prescriptions for medications priced above the co-payment threshold; from that point onward, data became available on all prescription medications.

⁹ Financial years in Australia commence at the beginning of July and conclude at the end of June.

¹⁰ Wage income is recorded to the dollar, and capped at \$1,000,000 Australian dollars. Very few observations in our analysis sample have incomes this high (0.05%).

We next exclude couples from the point at which either spouse reports zero wage income, as well as the prior year to account for mid-year labour market exits (e.g., retirement or job loss). This ensures that norm violations are not conflated with transitions out of the labour market. We also censor couples where either spouse turns 60, or upon death, to ensure consistent tracking of partnered individuals in prime working-age households.

To focus specifically on norm-based violations of the male breadwinner norm, rather than other sources of spousal income similarity, we impose two key sample restrictions. First, to rule out earnings equalization driven by shared employment contexts (e.g., Zinovyeva and Tverdostup, 2021), we exclude all couples in which either spouse was ever employed by the same employer, as identified using anonymized employer IDs in tax records. Couples working together may have similar earnings due to firm-level pay structures or mutual salary negotiation. Second, we exclude couples in which either spouse reported owning a business in the Census or received business income during the sample period, as business-owning couples may intentionally split income for tax or accounting purposes. These restrictions help isolate cases where relative earnings differences plausibly reflect individual labour market outcomes and the social salience of gendered earning roles, rather than artefacts of shared employment or income-splitting practices (Binder and Lam, 2022). We also exclude any remaining couples who, at any point in the sample, reported exactly equal earnings (0.04% of remaining couples). Finally, we exclude couples where combined annual household salary/wage income is less than \$30,000 AUD 2011/12 (0.93% of couples in our sample). Given Australia's relatively high minimum wage, both spouses in these couples must have worked a low number of hours to have an annual income below this amount. In other words, for neither spouse is employment a main activity.

Our estimation sample extends to the 2017-18 financial year for income, and to the 2019-20 financial year for mental health care usage. We restrict the income data to pre-COVID years to avoid confounding effects from widespread labour market disruptions during the pandemic, including job losses and government income support policies. Our final sample consists of 458,680 couples and 2,447,380 observation-years. See Appendix Figure A1 for a step-by-step breakdown of sample restrictions and the resulting number of observations and unique couples. Descriptive statistics of our estimation sample are provided in Appendix Table A1.

2.4 Distributional Checks of Relative Income

A potential concern in this literature is that couples may adjust their actual earnings to cross or avoid the point at which the wife earns more, for example, by altering hours worked, timing of bonus payments, or allocation of overtime. As outlined above, our sample restrictions are designed to limit such possibilities by excluding couples who ever report owning a business or working for the same employer, and by censoring years where either spouse earns zero wages or exits the labour force.

To further evaluate this, we examine the distribution of relative income, defined as the proportion of total couple wage income earned by the wife, around the 0.5 threshold (corresponding to equal earnings between spouses). We implement the Cattaneo, Jansson, and Ma (2020) density test (see Appendix Figure B1 for the distributional plot) and find no evidence of a discontinuity after applying our restrictions (estimated density = 0.026, standard error = 1.024, $p = 0.306$). This indicates that, within our estimation sample, there is no detectable manipulation of wage income around the 0.5 threshold.

3. Methods

We estimate the following model separately for men and women, as the consequences of violating the male breadwinner norm are likely to be gender-differentiated:

$$Y_{ijt+s} = \alpha + \beta \text{WifeEarnsMore}_{it} + f(\text{RelativeIncome}_{it}) + \gamma X_{it} + \delta_i + \mu_j + \text{state}_{it} + \varepsilon_{it} \quad (1)$$

where Y_{ijt+s} is an indicator for whether individual i working at employer j uses any mental health care services in year $t + s$. Motivated by both the data and prior work (e.g. Getik 2024), we examine outcomes measured one and two years after the income change ($t + 1$ and $t + 2$). It is not clear ex ante how long it might take for effects to emerge, as there may be delays in the psychological onset of distress or in seeking treatment. Our main analysis focuses on outcomes in $t + 2$, where effects are strongest, but we also report estimates for $t + 1$ (discussed in Section 4).

The main independent variable, $\text{WifeEarnsMore}_{it}$ is a binary indicator equal to 1 if the wife earns more than her husband in year t . Following Bertrand et al. (2015), we control for the log of wife's, husband's, and household wage income in X_{it} . To flexibly capture non-linear income effects, we additionally include their squared terms. In our main specification, the function $f(\text{RelativeIncome}_{it})$ is modeled as a third-order polynomial of the wife's share of total

couple wage income, allowing us to flexibly account for the relative earnings distribution. We test the robustness of our results to alternative polynomial orders for both relative income and wage income variables. We also censor the panel after separation so that income comparisons and mental health outcomes are measured only while couples remain partnered.

Our specification includes individual fixed effects, δ_i , to absorb time-invariant unobserved heterogeneity such as baseline mental health, earnings potential, or preferences around gender roles. State-by-year fixed effects, $state_{it}$, control for time-varying policy or economic shocks at the state level. We also include employer fixed effects, μ_j , to account for stable characteristics of the workplace - such as organisational culture, job security, and access to mental health supports, that may influence both earnings and mental health. In our final sample, we estimate employer fixed effects across 254,370 unique employers, with a mean of 20.35 employees per employer, ensuring sufficient within-employer variation.

This modelling approach allows us to isolate the mental health consequences of norm violations from other changes in income dynamics. Importantly, our rich set of controls and fixed effects means that β captures variation in norm violation status conditional on overall income levels, workplace characteristics, and individual traits. Notably, we also address the concern that changes in relative earnings might reflect adverse labour market shocks, such as job loss or involuntary job change, which could independently harm mental health. As mentioned in section 2.3, we restrict the sample to exclude any observations from the year a spouse earns zero wages and the preceding year, removing variation driven by labour market exits. Moreover, our main results are robust to including controls for job changes by both spouses, ruling out shorter-term employment shocks as the primary driver of the observed effects.

Finally, as another robustness check, we implement a local linear regression discontinuity (RD) design following Getik (2024), the study most closely related to ours. This design estimates the local average treatment effect of crossing the norm boundary for couples with near-equal earnings.

4. Results

We begin by considering the timing of mental health impacts, as it is not clear *ex ante* when these would be expected to materialise. A violation of the male breadwinner norm may not

cause immediate psychological distress, as relationship tensions could develop gradually, and any resulting mental health concerns might take time to manifest or be recognised. Additional delays may arise if individuals postpone seeking help or face barriers to accessing care.

For men, the estimated effect is largest and statistically significant for mental healthcare usage two years after the wife first out-earns her husband. At $t + 2$, men are 0.289 percentage points more likely to use mental health-related care ($p = 0.013$), corresponding to a 2.2% increase relative to the sample mean. The $t + 1$ coefficient is 0.127, about 45% of the size of the $t + 2$ estimate, and is not statistically significant ($p = 0.249$). This timing pattern supports our focus on the $t + 2$ window as the primary outcome in the remainder of the analysis. For women, we do not find clear evidence of an effect at either horizon. The $t + 2$ point estimate is roughly half the magnitude of the male effect (0.144) and not statistically significant ($p = 0.279$), while the $t + 1$ estimate is 0.057 ($p = 0.651$). These results suggest that breadwinner norm violations may be less psychologically salient for women, consistent with the idea that the male breadwinner norm is more strongly internalised by men and more consequential for their identity and wellbeing.

Having established $t + 2$ as the primary window of interest, we now examine the robustness of these results to alternative specifications, additional controls, and supplementary identification strategies. Table 1 presents our main results for the $t + 2$ period, alongside a series of robustness checks for men (Panel A) and women (Panel B). We focus first on the results for men. Column (1) reports estimates from our main specification (as reported above). Column (2) relaxes our censoring rule by allowing couples to remain in the sample after separation, provided they were together in period t . The estimated effect increases slightly ($\beta = 0.296$, $p = 0.011$), consistent with relationship strain leading to separation acting as a potential mechanism. Column (3) restricts the sample to individuals with no prior mental health care use in the baseline period (2012-13). The estimated effect is similar ($\beta = 0.262$, $p = 0.027$), suggesting that the results are not driven by men with prior mental health conditions. Column (4) adds controls for whether either spouse changed employers in period t , to account for short-term labour market shocks. These controls are not predictive of mental health outcomes,¹¹ and the main effect remains stable ($\beta = 0.290$, $p = 0.014$), indicating that the results are unlikely to be driven by job loss or workplace transitions. Finally, column (5) tests the robustness of our

¹¹ The coefficient for the job change binary variable is -0.031 for men ($p=0.649$) and -0.026 for women ($p=0.669$).

findings using a local linear regression discontinuity (RD) design with a bandwidth of 0.15, following Getik (2024). This specification includes individual fixed effects and controls for the log of own wage income and log household wage income. The results are very similar to those from our preferred specification ($\beta = 0.262$, $p = 0.036$). Appendix Figure B2 shows that the findings are stable in magnitude across a range of bandwidths.

Appendix Table B1, Panel A presents additional robustness checks. Results are qualitatively similar across alternative polynomial orders for relative income, with slightly smaller estimates at lower orders and somewhat larger effects at higher orders. Results are stable across different polynomial orders for log wage income variables. The estimated effect also remains robust to the inclusion of age fixed effects, changes to the fixed effect structure (e.g., replacing state-year with city-year fixed effects), and clustering of standard errors at a local labour market level.¹²

We now turn to the results for women, where the corresponding results are presented in Panel B of Table 1, and Panel B of Appendix Table B1. Across all specifications, in contrast to the findings for men, we find little evidence that a wife out-earning her husband affects women's own use of mental health care. Point estimates are mostly around half the magnitude of the corresponding male effects, and statistically indistinguishable from zero. This pattern is consistent with the male breadwinner norm being more salient as a psychological burden for men, reflecting the gendered expectations embedded in traditional earning roles. However, the absence of a direct effect for women does not preclude indirect pathways, for example if a perceived loss of respect for a partner contributes to relationship strain that, in turn, affects men's mental health.

4.1 Medication Use vs Service Use

We now turn to the separate components of the composite mental health outcome measure (Table 2). First, it is useful to note the baseline rates of mental health-related medication and service use in our sample. Women are considerably more likely than men to use both types of care, consistent with the broader literature. Among men, 11.2% use mental health-related medication and 4.98% use services (i.e. GP-initiated Mental Health Care Plans or psychologist

¹² Specifically, we use Statistical Area Level 4 (SA4) boundaries, which correspond to local labour market regions in Australia. SA4s in metropolitan areas typically have populations of 300,000 to 500,000 people, while those in regional areas generally have populations of around 100,000 to 300,000 people.

visits) in a given year. The corresponding rates for women are 17.73% for medication and 8.63% for services. Across both genders, medication use is much more common than service use.

Turning to the estimated coefficients, the effects for men are concentrated in medication use rather than services. The estimated effect on medication use is 0.212 percentage points (2% increase relative to the mean, $p = 0.036$), compared to an insignificant 0.059 percentage point increase for service use ($p = 0.535$). These results suggest that increases in male mental health care use following a breadwinner norm violation are more likely to take the form of medication rather than engagement with GPs and therapy services. For women, the point estimates for both medication use (0.102) and service use (0.049) are smaller and statistically insignificant ($p = 0.364$ and $p = 0.667$, respectively), consistent with the overall null findings in the composite measure. For the remainder of the analysis, we therefore focus on results for men only, where clear and statistically robust effects are observed.

4.2 Reverse Causality

To assess the possibility of reverse causality, namely, that changes in health status may lead to shifts in the breadwinner norm, we estimate first-difference models regressing changes in the treatment variable (*WifeEarnsMore*) on changes in medication use of ten major therapeutic classes. Results are presented in Appendix Table B2, using a specification that controls for state-year fixed effects (column 1), and one without the fixed effects (column 2).

Jointly, these medication categories do not significantly predict treatment status ($F\text{-stat} = 0.129$, $p = 0.227$ in column 1), providing no evidence of reverse causality overall. At the individual category level, ATC Class B medications, covering blood and antithrombotic agents, do appear to individually predict changes in *WifeEarnsMore* ($\beta = 0.306$, $p = 0.029$).¹³ These medications are commonly used after serious cardiovascular events (e.g., stroke, myocardial infarction), that could plausibly reduce a husband's labour force participation, thereby making the wife the primary earner. To ensure that our main results are not driven by such health-related transitions, we re-estimate our main specification excluding ever-users of ATC Class B medications (Appendix Table B3). The estimated effect is slightly larger in magnitude ($\beta = 0.303$, $p =$

¹³ This result does not remain statistically significant when applying an FDR correction for multiple hypothesis: the sharpened q-value is 0.343 in our model with state-year fixed effects, and 0.389 in the model without (Anderson 2008).

0.012), indicating that the observed relationship between norm violations and male mental health is not explained by reverse causality arising from major health shocks to the husband.

4.3 Placebo tests

To further assess the validity of our results, we implement a series of placebo tests (Table B4). First, we test whether wife-breadwinner status in period t is associated with mental health care use in the prior year ($t - 1$). Finding an association would indicate the presence of an anticipatory effect or omitted variables that precede the treatment. We find no such evidence ($\beta = -0.047$, $p = 0.521$). We then examine whether wife-breadwinner status predicts subsequent ($t + 2$) use of medications in therapeutic classes that are not plausibly linked to income dynamics or relationship strain. We focus on ATC categories N03 (antiepileptics i.e., medications to manage and prevent seizures in people with epilepsy), N04 (anti-Parkinson's drugs), and N06B (agents for ADHD and nootropics). These classes treat neurological conditions unlikely to be triggered by violations of the male breadwinner norm, making them appropriate placebo outcomes. Consistent with expectations, we find no significant effects for any of these categories, reinforcing the view that our main findings are not driven by spurious health-related correlations.

4.4 Persistent vs. Temporary Transitions Around the 0.5 Threshold

Finally, to distinguish effects arising from persistent shifts in household breadwinner status from those driven by short-term fluctuations, we stratify couples by the number of times they cross the 0.5 relative income threshold over the full panel. Couples with two or fewer crossings are classified as “persistent”, since most of the couples with a change, experience only a single change in the identity of the higher earner. Those with three or more crossings are classified as “temporary,” reflecting repeated movements back and forth across the threshold.

Table 3 presents the results for these subsamples. For the persistent group, the estimated effect of the wife earning more (column 1) is 0.304 ($p = 0.020$), whereas for the temporary group (column 2) the corresponding estimate is 0.077 ($p = 0.805$). This indicates that the main effect is driven by couples with relatively stable shifts in breadwinner status.¹⁴ These findings suggest

¹⁴ Restricting further to couples with one crossing only, consistent with an apparently permanent shift, yields a larger estimate of 0.349.

that norm violations do not adversely affect mental health when they are temporary, but become detrimental when perceived as lasting changes in household dynamics.¹⁵

These findings suggest that the mental health costs of gender norm violations depend on expectations about their duration. When shifts in breadwinner status are temporary, couples may treat them as transitory shocks, with limited implications for longer-term household bargaining power, identity, or social signalling. In this case, the deviation from the norm may not be internalised strongly enough to affect mental health. By contrast, when the change is perceived as lasting or (semi-)permanent, it creates relationship tension that generates significant mental health costs.

5. Mechanisms

We now turn to potential mechanisms that may help explain our main findings. We focus on three primary channels: relationship strain, peer income comparisons, and other health effects.

5.1 Relationship Strain

To examine whether violations of the breadwinner norm contribute to relationship strain, we first test whether couples are more likely to separate following a year in which the wife earns more than her husband. We estimate couple fixed effects models for separation outcomes in year $t + 2$, conditioning on couples being together in period t . We find a statistically significant increase in the likelihood of separation in $t + 2$. Specifically, separations rise by 0.121 percentage points ($p = 0.035$) when the wife earns more than her husband. This represents a 3.4% increase in separations compared to the mean for this sample (conditional on being together at t).¹⁶ This pattern aligns with the interpretation that norm violations can generate sustained interpersonal strain that ultimately undermines relationship stability.

We complement this analysis with data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, Australia's largest and longest running household-based panel study (Department of Social Services; Melbourne Institute of Applied Economic and Social

¹⁵ Note that these samples are not necessarily exogenous - it could be that strain or mental health effects determine whether a subsequent cross occurs.

¹⁶ We find no effect in $t + 1$ ($\beta = 0.018$, $p = 0.695$). This delay may reflect the time it takes for psychological strain to accumulate or become salient enough to drive relationship dissolution. It may also reflect practical constraints, such as the financial, logistical, or emotional complexities of ending a relationship and moving out of a shared household, which can cause a lag between initial tensions and observed separations.

Research, 2023). Since 2001, HILDA has followed more than 17,000 individuals annually, collecting information on economic, social, demographic, and health outcomes. For our purposes, we identify married, prime working-age couples (aged 25 to 59 years) with positive salary income and track them from the time they first appear as married in our sample until 2020, or until they separate or attrit from the survey.¹⁷ For couples that re-marry during the sample period, we consider only their first marriage.

Using the same specification as in the separation analysis, we examine the impact of violating the male breadwinner norm on three survey outcomes.¹⁸ First, to assess how couples feel about their wage when the norm is breached, we consider self-reported satisfaction with pay. Respondents are asked to rate their satisfaction on a scale from 0 (“totally dissatisfied”) to 10 (“totally satisfied”). Results are shown in Table 4, Panel A. We find that when the husband is out-earned by his wife, his pay satisfaction declines: the estimated coefficient is -0.214 ($p < 0.001$), which corresponds to roughly 22 percent of the standard deviation of this measure. Conversely, we find no impacts for women.

We next consider satisfaction within the relationship in Panel B. Using a scale from 0 (“complete dissatisfaction”) to 10 (“complete satisfaction”), respondents are asked how satisfied they are with their relationship with their partner. When wives earn more than their husbands, we find that women report lower relationship satisfaction ($\beta = -0.095$, $p = 0.042$), equivalent to 5 percent of a standard deviation. For men, the estimated effects are smaller in magnitude and not statistically significant. These results suggest that female dissatisfaction may rise when traditional breadwinner roles are challenged, consistent with the idea that norm violations create tension or strain within the relationship.

These findings differ from those of Foster and Stratton (2021), who also examine the impacts of a wife out-earning her husband on relationship quality in HILDA. The authors find no significant association between female breadwinning and relationship satisfaction, or other measures of relationship health. Differences in results may reflect differences in sample construction and model specification. Foster and Stratton (2021) consider couples where men are aged 18 to 64 and women 18 to 62, including those with zero income (and controlling for

¹⁷ Similar to the main analysis sample, we also remove very low income households, i.e. where household income is less than \$30,000 (AUD 2011/12).

¹⁸ In HILDA, income is reported for the most recently completed financial year (July 1 to June 30). Given most interviews are conducted in September-November, our outcome variables are measured several months after the income year is finished.

non-participation), whereas we restrict to couples aged 25 to 59 with positive wage and salary income. Our specification also allows for a more flexible structure of income controls, incorporating quadratic terms for log wife, husband, and household income, and cubic terms for relative income. It is worth noting, however, that while Foster and Stratton (2021) find no average effects, their results for younger couples align more closely with our findings.¹⁹

Finally, in Panel C, we examine a standardized measure of mental health using the standardised SF-36 mental health index, which captures psychological distress and wellbeing and is increasing in good mental health. Consistent with the administrative results from PLIDA, we find evidence that men's mental health worsens when their wife earns more. The estimated coefficient corresponds to a 0.05 standard deviation in the mental health index ($p = 0.048$). By contrast, we find no effects for women. This pattern reinforces the interpretation that violations of the breadwinner norm primarily affect men's psychological wellbeing, which may in part be driven by a wife's dissatisfaction with the non-traditional earnings arrangement.

Overall, the administrative and survey results provide consistent evidence that violations of the male breadwinner norm increase relationship strain, through lower satisfaction and higher separation risk, which in turn, likely contributes to the deterioration in men's mental health observed in both datasets. However, relationship strain is not the only plausible channel through which norm violations might affect wellbeing. Another potential pathway is through changes in self-perception and social identity driven by comparisons with peers, which we examine next.

5.2 Peer Income Comparisons

To test whether the observed mental health effects reflect broader social comparisons rather than intra-household norm violations, we introduce a series of peer comparison controls using data on all prime working-age men with positive wage and salary income in PLIDA. Specifically, we construct binary indicators for whether the male spouse earns less than the median income of various reference groups, categorised as: (i) men of similar age in the same local labour market area; (ii) working-age male neighbours; (iii) men of similar age and job

¹⁹ A further point of difference between our findings and the findings of Foster and Stratton (2021) in regards to our separation analysis is the use of administrative vs. survey reported earnings, which are subject to reporting error. As the authors note, relative to women, men's self-reported income figures are often biased upwards and subject to greater error (Close and Heggeness 2019). If this is the case in HILDA, it may lead to some misclassification in breadwinner status, which may attenuate estimates of the effects of norm violations.

type; (iv) men of similar age and education level; and (v) all men employed by the same employer.²⁰

Results are presented in Table 5. Across all specifications, the coefficient on *WifeEarnsMore* remains stable and statistically significant after the inclusion of these controls, suggesting that our main findings are not explained by peer income rankings. Instead, the effects appear to stem from intra-household dynamics tied to gendered role expectations. Among the peer variables, one reaches statistical significance. Earning less than men of a similar age and job type is associated with higher mental health care use ($\beta = 0.247$, $p = 0.002$), potentially reflecting occupational identity or performance-based comparisons, particularly in male-dominated roles. These results suggest that the psychological costs of a wife out-earning her husband are not driven by how men rank within their broader peer groups, but rather by dynamics within the couple itself.

5.3 Other Health Channels

Another potential explanation for our findings is that violations of the breadwinner norm trigger other health problems, which in turn drive the deterioration in men's mental health. To explore this channel, we examine whether *WifeEarnsMore* in year t predicts visiting the GP more frequently in subsequent periods, or increases the likelihood of using the ten most common ATC medication categories in year $t + 2$. Across all models, we find no evidence of increased visits or usage following a norm violation (Appendix Table B5). This suggests that the observed mental health effects are unlikely to operate through broader physical health pathways. Instead, the evidence points toward a more direct psychological channel: men's mental wellbeing declines specifically when their traditional role as primary earner is disrupted, rather than because of accompanying health shocks. In the next section, we explore whether the magnitude of these effects differs across different types of couples.

6. Heterogeneity

²⁰ We define similar age as being in the same five-year age group, e.g. 40 to 45 years. As above, local labour market areas correspond to SA4s. Neighbours are individuals residing in the same SA1, which have an average population of around 400 people. Similar job types are defined using three-digit ANZSCO occupation codes, which categorise occupations by skill specialisation. To have a valid peer comparison in this analysis, we require that men have at least 10 peers in the same comparison group in a given year. This restriction affects the resulting sample size, particularly for the analysis considering male peers at the same employer.

We explore whether the mental health effects of breadwinner norm violations vary across subgroups where traditional gender expectations may be more salient (Figure 1). To do this, we split the sample along key heterogeneity dimensions and re-estimate equation (1) separately for each subgroup. While none of the differences across groups are statistically significant, due in part to smaller estimated effects and wide confidence intervals in some subgroup comparisons (i.e. those corresponding to smaller sample sizes), the pattern of point estimates offers suggestive evidence on where norm violations may be more psychologically costly.

The largest effects are observed among men born in Australia ($\beta = 0.396$, $p = 0.007$), who may be more likely to internalise prevailing national norms around breadwinning, compared to those born abroad ($\beta = 0.050$, $p = 0.802$). Younger couples, where the eldest spouse is under 45, also show a larger effect ($\beta = 0.364$, $p = 0.016$) than older couples ($\beta = 0.157$, $p = 0.409$), who may be more established in their relationships, representing a more resilient group. Having dependent children (as identified in tax records) is associated with a stronger estimated effect ($\beta = 0.322$, $p = 0.012$) compared to not having children ($\beta = 0.051$, $p = 0.866$). This is consistent with the idea that provider expectations are especially pronounced for fathers, reinforcing the symbolic importance of earning more than their spouse.²¹ Similarly, men reporting a religious affiliation in the Census have larger effects than those with no religious affiliation ($\beta = 0.308$, $p = 0.022$ vs. $\beta = 0.093$, $p = 0.701$, respectively). Religiosity has been associated with stronger beliefs about traditional family roles, which may heighten the psychological salience of norm violations within the household. Overall, these patterns are consistent with the interpretation that the observed mental health effects are shaped by the salience of gender norms, rather than by income dynamics alone.

7. Conclusion

We present evidence that the gender norm that ‘a man should earn more than his wife’ has important mental health repercussions. Using rich longitudinal administrative data from Australia, we find that the impact of norm violations emerge over time for men, with a significant impact two years after wives out-earn their husbands. At that point, men are 0.289 percentage points more likely to use mental-health related care (doctor and psychologist visits and prescribed medications) corresponding to a 2.2% increase relative to the sample mean. By

²¹ This in turn may partly explain why women’s wage and labour supply reductions following childbirth are so persistent.

contrast, we find little effects for women. These results indicate that violations of the male breadwinner norm impose disproportionate psychological costs on men.

An exploration regarding which component of mental health care – services or medication use – is most responsive to norm violations finds that, on average, medication use matters more, and again, primarily for men. Distinguishing between persistent and temporary changes in traditional income roles reveals that persistent role reversals are more damaging to men's mental health, consistent with the idea that these shifts are more disruptive to accepted marital gender norms within partnerships. Mechanisms analyses highlight relationship strain as a key pathway: the likelihood of separation rises significantly two years after husbands are out-earned, and complementary survey data on subjective outcomes provide further support for this channel. Peer income comparisons, by contrast, appear largely irrelevant - we find that within-household dynamics dominate any association with alternate groups (peer comparison effects are also mostly insignificant). We also find no evidence that our mental health effects are driven by broader physical health pathways. Considering heterogeneity, impacts are largest for men born in Australia, those in partnerships where the eldest spouse is below 45 years (younger couples), couples with dependent children, and for those with religious identities. We employ a range of robustness checks to underscore the empirical validity of our findings. Overall, these results indicate that violating the male breadwinner norm brings significant harmful effects to men's mental health.

Under standard models of marital bargaining, pareto efficiency would suggest that we should see few effects on men, as any increase in marital surplus resulting from wives out-earning husbands should consequently leave no partner worse off. Our finding of measurable negative impacts on men's mental health runs counter to this expectation. Instead, the evidence suggests that entrenched gender norms distort the allocation of gains from role reversals, impeding the potential efficiency benefits of specialization when wives assume the breadwinner role.

Our results show that the costs of violating the male breadwinner norm are best understood as stemming from relationship strain that manifests differently across genders. When wives out-earn their husbands, women report lower satisfaction with their relationships, while men experience declines in mental health and greater reliance on mental health-related care. This pattern suggests that although both partners may feel strain when traditional roles are disrupted, the consequences take different forms. Together, these findings highlight how deeply gendered

expectations shape both individual identity and couple dynamics, with violations of the breadwinner norm spilling over into multiple domains of wellbeing.

A deeper understanding of this topic helps to shed light on the restrictive influence of tacit societal gender-specific norms in shaping men's and women's labour supply, with ramifications for a spectrum of outcomes that span wellbeing, life satisfaction and health, and broader puzzles regarding the persistence of the gender wage gap and gendered career inequality (Bertrand et al. 2010, Smith et al. 2013). In future work, it would be interesting to understand the economic underpinnings of such gendered norms, the individual and societal factors that trigger distress within relationships when they are violated, and why such norms continue to exist and exert influence in developed countries like Australia (or indeed anywhere else), despite their significant economic and health costs.

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Figure 1: Heterogeneity in Male Mental Healthcare Usage of Breadwinner Norm Violations

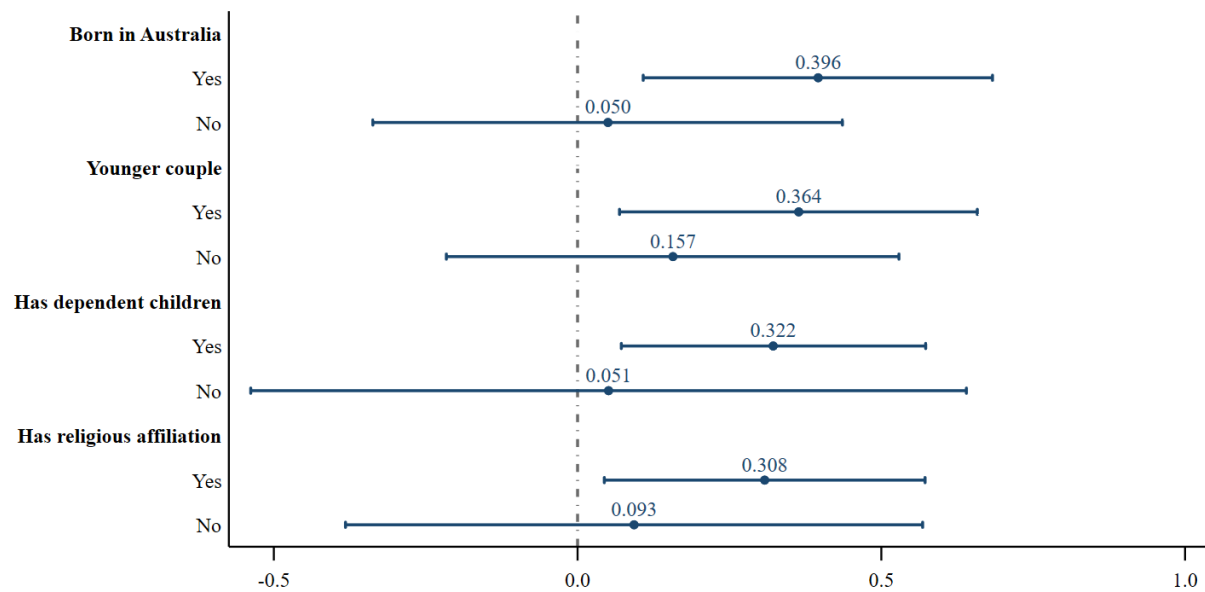


Figure shows subgroup estimates from Equation (1), where the sample is split according to each heterogeneity characteristic. Estimates are obtained from separate regressions for each subgroup. Sample sizes are: $N = 1,384,780$ for men born in Australia and $N = 582,940$ for men born abroad; $N = 1,143,410$ for younger couples and $N = 824,300$ for older couples; $N = 1,644,180$ for men with dependent children and $N = 323,530$ for men without dependent children, $N = 1,498,190$ for men that report a religious affiliation in the Census and $N = 469,520$ for men who do not. These sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements.

Table 1: Mental Health Care Effects of Breadwinner Norm Violations

	(1)	(2)	(3)	(4)	(5)
	<i>Panel A: Males</i>				
<i>WifeEarnsMore</i>	0.289*	0.296*	0.262*	0.290*	0.262*
	(0.117)	(0.117)	(0.118)	(0.118)	(0.125)
Outcome mean	13.502	14.062	8.120	13.514	13.861
N	1,967,710	2,041,240	1,762,250	1,940,510	977,160
	<i>Panel B: Females</i>				
<i>WifeEarnsMore</i>	0.144	0.080	0.096	0.157	0.189
	(0.132)	(0.131)	(0.141)	(0.134)	(0.144)
Outcome mean	21.735	22.404	12.255	21.752	20.854
N	1,971,830	2,045,680	1,622,050	1,940,510	977,160
Employer FEs	Y	Y	Y	Y	
Relaxing separation condition		Y			
No MH usage baseline			Y		
Job change controls				Y	
Local linear regression discontinuity					Y

Each column reports the effect of a wife earning more than her husband (*WifeEarnsMore*) in year *t* on mental health care use in year *t*+2. The dependent variable is a binary indicator for any mental health-related care (services or medications), multiplied by 100 so coefficients are in percentage points. Columns (1) to (4) include individual and state-year fixed effects, third-order polynomials in relative income, and second-order polynomials in log income for the husband, wife, and household. Column (5) implements a local linear RD with a 0.15 bandwidth following Getik (2024), including individual fixed effects and log own and household income (no state-year fixed effects). Robust standard errors in parentheses. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table 2: Mental Healthcare Usage by Type of Care

	Males		Females	
	(1) Medications	(2) Services	(3) Medications	(4) Services
<i>WifeEarnsMore</i>	0.212* (0.101)	0.059 (0.095)	0.102 (0.112)	0.049 (0.115)
Outcome mean	11.199	4.979	17.728	8.632
N	1,967,710	1,967,710	1,971,830	1,971,830

Estimated effects of the violations in the male breadwinner norm by type of mental healthcare usage (medications vs services). Outcomes are binary variables rescaled by a factor of 100. All models include individual, employer and state-by-year fixed effects, second-order polynomials for log wife, husband and household income, and third-order polynomials for relative income. Robust standard errors reported in parentheses. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table 3: Male Mental Health Effects of Breadwinner Norm Violations by Frequency of Transitions Around Norm

	(1) 2 or less transitions	(2) 3 or more transitions
<i>WifeEarnsMore</i>	0.304* (0.131)	0.077 (0.311)
Outcome mean	13.454	14.653
N	1,889,060	78,650

Estimated effects from Equation (1) are reported separately for couples with two or fewer transitions across the *WifeEarnsMore* threshold and those with three or more transitions over the panel period. Outcomes are binary variables rescaled by a factor of 100. All models include individual, employer, and state-by-year fixed effects, second-order polynomials for log wife, husband, and household income, and third-order polynomials for relative income. Robust standard errors reported in parentheses. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table 4: Effects of Violations of the Male Breadwinner Norm on Pay Satisfaction, Relationship Satisfaction, and Mental Health: Insights from the HILDA Survey

	Men (1)	Women (2)
Panel A: Satisfaction with salary		
Wife Earns More	-0.214** (0.059)	0.032 (0.056)
Sample mean	7.196	7.194
Standard deviation	1.885	1.983
Observations	23,412	21,987
Panel B: Satisfaction with relationship		
Wife Earns More	-0.021 (0.045)	-0.095* (0.047)
Sample mean	8.384	8.184
Standard deviation	1.746	1.900
Observations	22,375	22,749
Panel C: Standardized mental health score		
Wife Earns More	-0.050* (0.027)	0.007 (0.027)
Sample mean	0.072	-0.079
Standard deviation	0.976	1.018
Observations	22,406	22,768

Data in this analysis come from the Household, Income and Labour Dynamics in Australia (HILDA) survey. The sample is restricted to all married couples, where both spouses earn a positive salary income and are aged between 25 and 59 years. Models are estimated separately for men and women. Models include individual and state-by-year fixed effects, second-order polynomials for log wife, husband, and household income, and third-order polynomials for relative income. Robust standard errors are reported in parentheses. ** $p < 0.01$, * $p < 0.05$.

Table 5: Spousal vs. Peer Comparisons

	(1)	(2)	(3)	(4)	(5)
<i>WifeEarnsMore</i>	0.289* (0.117)	0.297* (0.117)	0.279* (0.117)	0.295* (0.117)	0.288* (0.131)
Peer earns more	0.001 (0.096)	-0.156 (0.088)	0.247** (0.079)	-0.135 (0.093)	-0.034 (0.083)
Outcome mean	13.50	13.50	13.50	13.50	13.64
N	1,967,710	1,964,760	1,966,710	1,967,710	1,632,960

Each column reports results from a separate regression including *WifeEarnsMore* and one peer comparison variable. Peer variables indicate whether the male spouse earns less than median wage income of (i) men of similar age in the same local labour market area; (ii) working-age male neighbours; (iii) men with similar age and job; (iv) men with similar age and education level; and (v) all men employed by the same employer. All models include individual, employer and state-by-year fixed effects, second-order polynomials for log wife, husband and household income, and third-order polynomials for relative income. Robust standard errors reported in parentheses. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

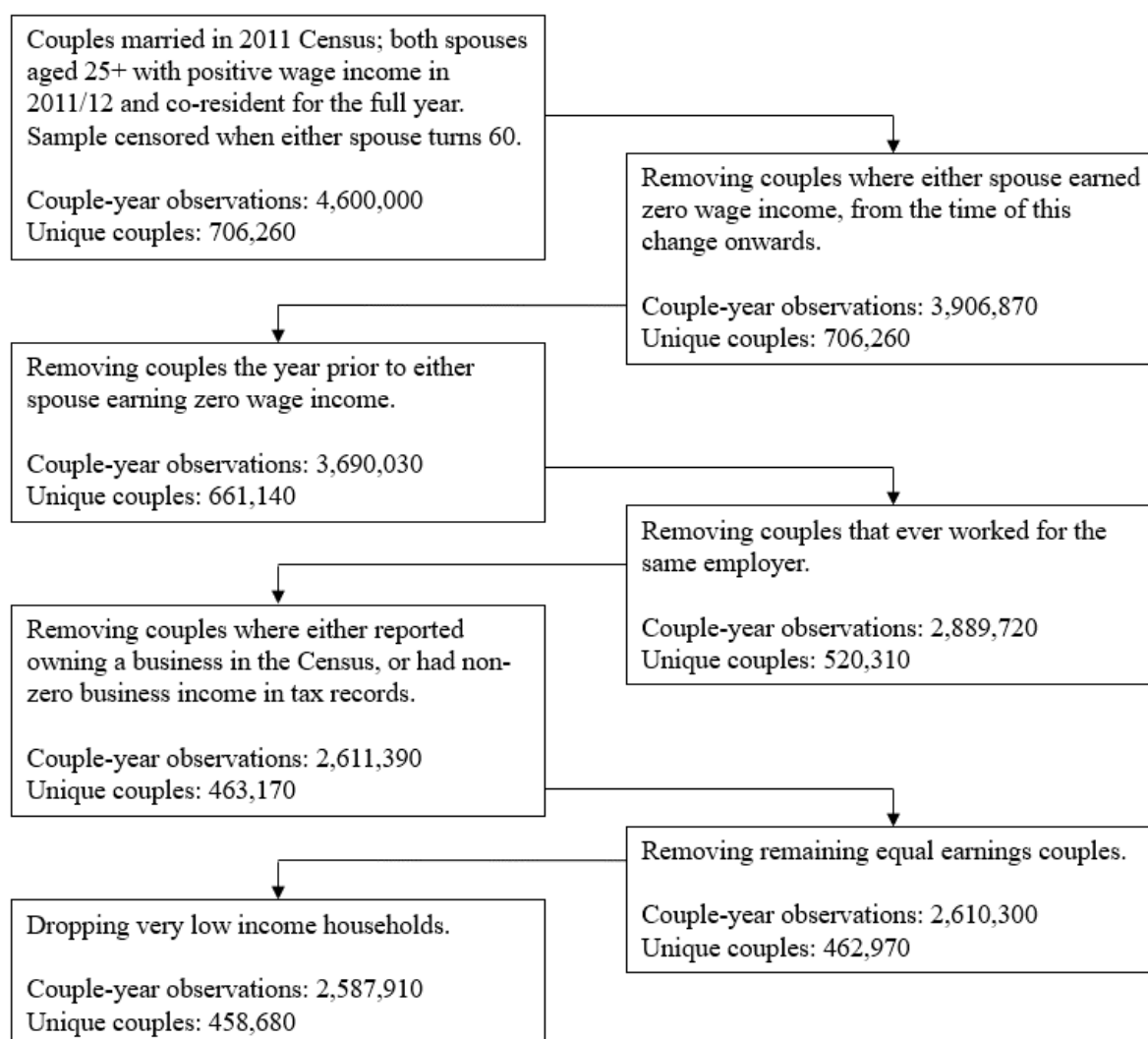
Appendix A

PLIDA Linkage Details

The Person Linkage Spine is the foundation of PLIDA, created by combining population records from three high-quality administrative datasets: the Medicare Consumer Directory (Services Australia), the DOMINO Centrelink Administrative Data (Department of Social Services), and Personal Income Tax records (Australian Taxation Office). The Medicare Consumer Directory covers all people enrolled in Medicare, namely all people residing in Australia who are Australian or New Zealand citizens, or permanent resident visa holders or current applicants awaiting processing. The DOMINO Centrelink Administrative Data encompass individuals who have engaged with Centrelink, the agency responsible for administering social security payments and services for eligible Australians residents and their families. Income tax data covers all people who lodge a tax return in a given financial year. Unique spine identifiers are created using key variables from these datasets, including name, date of birth, gender and address. Together, these sources aim to capture all individuals resident in Australia during a reference period. The current Spine covers residents from January 2006 to June 2023 – this includes 33.8 million people from the MCD, 26.6 million from DOMINO, and 25.9 million from the ITR. Individuals with no interaction in any of these systems are not included, e.g., recent or temporary migrants, and young children not yet recorded in the Medicare system (Productivity Commission, 2024)²².

²² Productivity Commission 2024, A-PLIDA-analysis: Using PLIDA for public policy research and reporting, Research paper, Canberra.

Figure A1: Summary of Sample Restrictions for PLIDA Analysis



This flow diagram illustrates the sequential restrictions applied to construct the main analysis sample from the ABS Person-Level Integrated Data Asset (PLIDA). All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements.

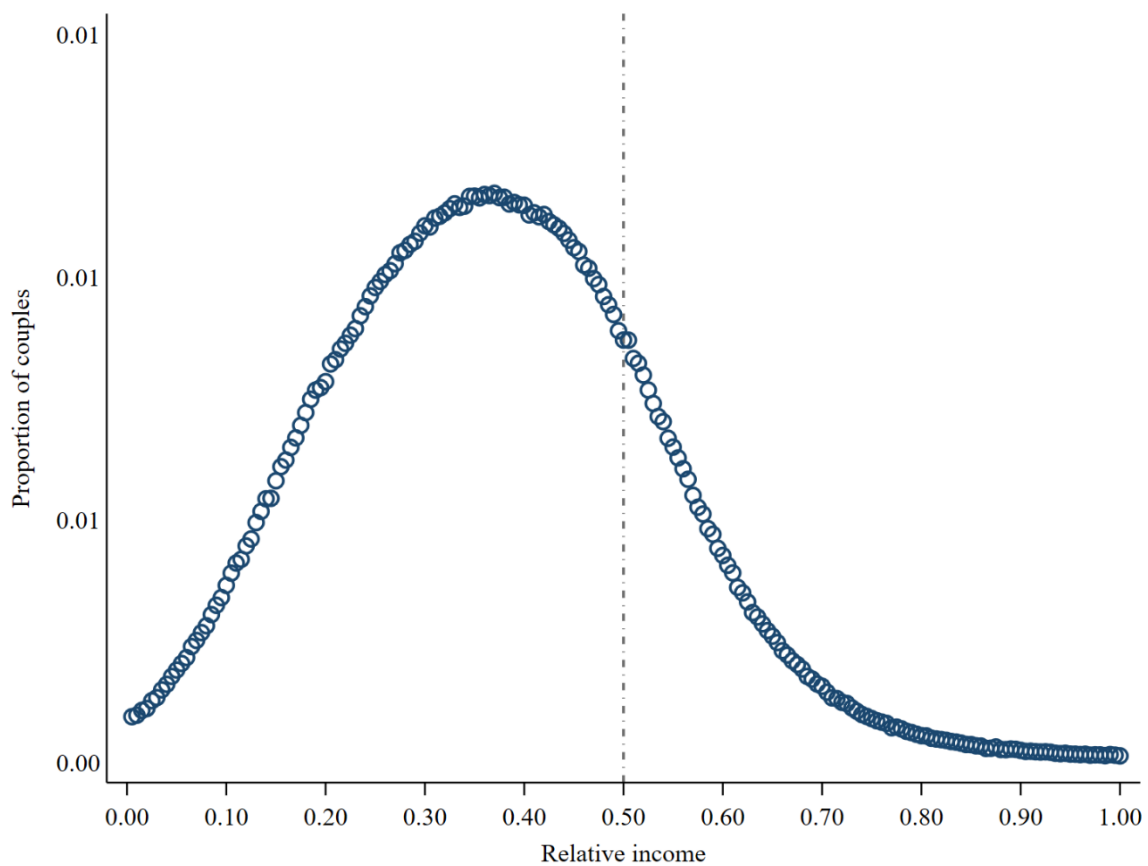
Table A1: Descriptive Statistics

	Males		Females	
	Mean	Standard deviation	Mean	Standard deviation
Age	46.42	7.64	44.57	7.54
Born in Australia	0.700	0.458	0.708	0.455
Has university degree	0.299	0.458	0.387	0.487
Did not complete high school	0.174	0.379	0.198	0.399
Has dependent children	0.822	0.382	0.822	0.382
Wages	89,652	53,268	51,792	34,417
Household wages	141,444	65,378	141,444	65,378
Relative wage	0.373	0.166	0.373	0.166
Wife earns more	0.215	0.411	0.215	0.411
Husband changed employer	0.177	0.382	0.177	0.382
Wife changed employer	0.182	0.386	0.182	0.386
Separated	0.066	0.248	0.066	0.248
Any mental healthcare usage	0.136	0.342	0.219	0.413

Descriptive statistics are based on the restricted sample used in the main analysis, excluding couples with business income, shared employers, or zero wage income. All wage measures are expressed in 2011/12 Australian dollars (AUD).

Appendix B

Figure B1: Distribution of Relative Income in our Estimation Sample



Notes: The figure plots the distribution of relative income, i.e. the share of total couple wage income earned by the wife, using a bin width of 0.005. The sample excludes couples with business income, couples ever employed by the same employer, observations where either spouse earned zero wages, and very low-income households (<\$30,000). Results from the Cattaneo, Jansson, and Ma (2020) manipulation test show no evidence of discontinuity at the 0.5 threshold (estimated density = 0.026, SE = 1.024, log density = 0.015, $p = 0.306$).

Figure B2: Local Linear RD for Male Mental Health: Robustness to Alternative Bandwidths

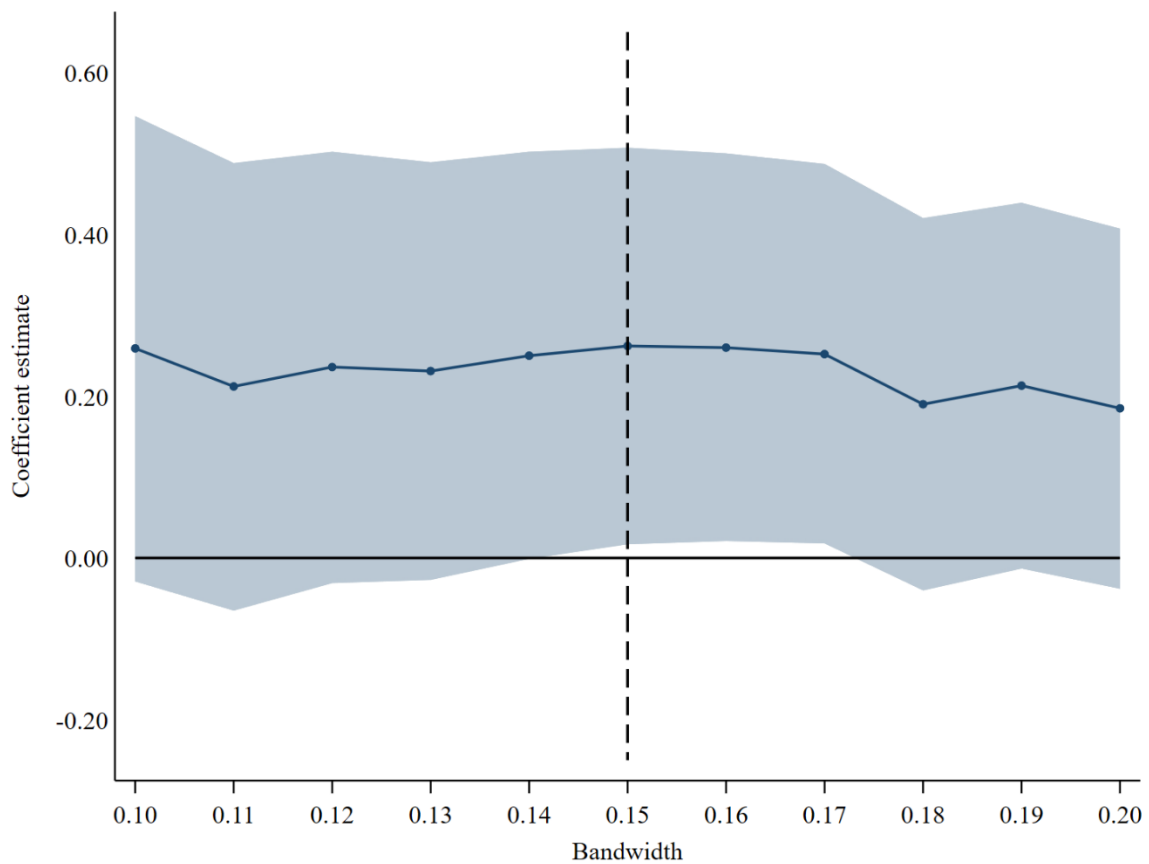


Figure shows point estimates and 95% confidence intervals (shaded area) of local linear regression discontinuity models, varying the bandwidth from 0.10 to 0.20 in 0.01 increments. All models individual individual fixed effects and log own and household income.

Table B1: Robustness to Alternate Specifications

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Men									
<i>WifeEarnsMore</i>	0.289*	0.199	0.208	0.399**	0.290*	0.303**	0.289*	0.290*	0.289*
	(0.117)	(0.108)	(0.112)	(0.123)	(0.116)	(0.117)	(0.117)	(0.117)	(0.119)
Panel B: Women									
<i>WifeEarnsMore</i>	0.144	0.185	0.160	0.135	0.169	0.158	0.141	0.148	0.144
	(0.132)	(0.122)	(0.125)	(0.137)	(0.132)	(0.133)	(0.132)	(0.133)	(0.126)
Log income measures: 2nd order polynomial	Y	Y	Y	Y			Y	Y	Y
Relative income: 3rd order polynomial	Y				Y	Y	Y	Y	Y
State-year fixed effects	Y	Y	Y	Y	Y	Y	Y		Y
Relative income: 1st order polynomial		Y							
Relative income: 2nd order polynomial			Y						
Relative income: 4th order polynomial				Y					
Log income measures: 1st order polynomial					Y				
Log income measures: 3rd order polynomial						Y			
Male & female age fixed effects							Y		
City-year fixed effects								Y	
Robust standard errors clustered at SA4 level									Y

Each column reports the effect of a wife earning more than her husband (*WifeEarnsMore*) in year t on mental health care use in year t+2. The dependent variable is a binary indicator for any mental health-related care (services or medications), multiplied by 100. Robust standard errors reported in parentheses. ** p < 0.01, * p < 0.05.

Table B2: Do Health Shocks Amongst Men Predict Changes in *WifeEarningsMore*?

	(1)	(2)
Δ ATC A: Alimentary tract and metabolism	-0.041 (0.070)	-0.041 (0.070)
Δ ATC B: Blood and blood forming organs	0.306* (0.140)	0.306* (0.140)
Δ ATC C: Cardiovascular system	0.184 (0.095)	0.180 (0.095)
Δ ATC D: Dermatologicals	-0.001 (0.078)	-0.001 (0.078)
Δ ATC H: Systemic hormonal preparations, excluding sex hormones and insulins	0.127 (0.084)	0.128 (0.084)
Δ ATC J: Antiinfectives for systemic use	0.026 (0.038)	0.026 (0.038)
Δ ATC M: Musculo-skeletal system	0.025 (0.059)	0.025 (0.059)
Δ ATC N: Nervous system	0.006 (0.051)	0.006 (0.051)
Δ ATC R: Respiratory system	-0.055 (0.095)	-0.053 (0.095)
Δ ATC S: Sensory organs	0.005 (0.087)	0.005 (0.087)
F-statistic	1.312	1.294
p-value	0.217	0.227
Outcome mean	0.86	0.86
N	1,566,300	1,566,300

Outcome variable is the first difference of *WifeEarningsMore*, i.e., the change between *WifeEarningsMore* at time t and $t - 1$. Each row reports the coefficient estimate on the first difference (Δ) for the corresponding ATC class. Column (1) includes state-year fixed effects; Column (2) replaces time-based fixed effects with a constant. Both models include first differences in income variables (excluding Δ relative income). The F-statistic (and associated p -value) tests the joint significance of all first-differenced ATC classes, representing health shocks. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table B3: Estimated Effects of Violations of the Breadwinner Norm on Male Mental Health Care Usage: Removing Ever-Users of ATC B Class Medications

<i>WifeEarnsMore</i>	0.303*
	(0.120)
Outcome mean	13.016
N	1,820,810

Model includes individual, employer and state-by-year fixed effects, second-order polynomials for log wife, husband and household income, and third-order polynomials for relative income. Robust standard errors reported in parentheses. Reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table B4: Placebo Tests

	(1)	(2)	(3)	(4)
	Mental Healthcare t-1	ATC N03	ATC N04	ATC N06B
<i>WifeEarnsMore</i>	-0.047 (0.135)	-0.011 (0.024)	-0.007 (0.014)	0.009 (0.013)
Outcome mean	12.188	0.872	0.17=	0.171
N	1,547,450	1,967,710	1,967,710	1,967,710

The dependent variable in column (1) is mental health care usage in period $t - 1$. Columns (2) to (4) use as dependent variables mental health-related medication use in period $t+2$ for ATC classes where no causal effect is expected: N03 (antiepileptics), N04 (anti-Parkinson's drugs), and N06B (agents used for ADHD and nootropics). All outcomes are rescaled by a factor of 100. Each model includes individual, employer, and state-year fixed effects, a third-order polynomial in relative income, and a second-order polynomial in log husband, wife, and household wage income. All reported sample sizes are rounded to the nearest 10, in line with ABS confidentiality requirements. ** $p < 0.01$, * $p < 0.05$.

Table B5: Impacts on Other Health Care Outcomes

	(1) GP visits	(2) ATC A	(3) ATC B	(4) ATC C	(5) ATC D	(6) ATC H	(7) ATC J	(8) ATC M	(9) ATC R	(10) ATC S
<i>WifeEarnsMore</i>	-0.007 (0.013)	-0.112 (0.122)	-0.008 (0.061)	0.03 (0.101)	0.075 (0.104)	-0.058 (0.100)	0.034 (0.209)	-0.067 (0.138)	0.056 (0.088)	-0.031 (0.093)
Outcome mean	3.707	16.974	2.755	22.444	6.269	6.461	34.138	14.395	7.018	4.674

All outcomes are measured in $t + 2$. The outcome variable in column (1) is a count for the number of GP visits, all other outcome variables are binary variables = 100 if the husband filled a prescription for the particular class of medications in $t+2$. All models include individual, employer and state-by-year fixed effects, second-order polynomials for log wife, husband and household income, and third-order polynomials for relative income. Robust standard errors reported in parentheses. ** $p < 0.01$, * $p < 0.05$.

Disclaimer

The results of these studies are based, in part, on data supplied to the ABS under the Taxation Administration Act 1953, A New Tax System (Australian Business Number) Act 1999, Australian Border Force Act 2015, Social Security (Administration) Act 1999, A New Tax System (Family Assistance) (Administration) Act 1999, Paid Parental Leave Act 2010 and/or the Student Assistance Act 1973. Such data may only be used for the purpose of administering the Census and Statistics Act 1905 or performance of functions of the ABS as set out in section 6 of the Australian Bureau of Statistics Act 1975. No individual information collected under the Census and Statistics Act 1905 is provided back to custodians for administrative or regulatory purposes. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes and is not related to the ability of the data to support the Australian Taxation Office, Australian Business Register, Department of Social Services and/or Department of Home Affairs' core operational requirements.

Legislative requirements to ensure privacy and secrecy of these data have been followed. For access to PLIDA and/or BLADE data under Section 16A of the ABS Act 1975 or enabled by section 15 of the Census and Statistics (Information Release and Access) Determination 2018, source data are de-identified and so data about specific individuals has not been viewed in conducting this analysis. In accordance with the Census and Statistics Act 1905, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.