

Dynamics of Parental Work Hours, Job Security, and Child Behavioural Problems in Australian Dual-Earner Families

Jack Lam¹ · Martin O’Flaherty¹ · Janeen Baxter¹

Accepted: 16 May 2017

© Springer Science+Business Media Dordrecht 2017

Abstract We test whether parental employment conditions are associated with child behavioural problems in 6674 Australian dual-earner families. Using mixed-effects panel models and three waves of data from two cohorts of the Longitudinal Study of Australian Children, we find longer maternal work hours and lower paternal job security are associated with greater child behavioural problems, even in our select, relatively privileged sample of dual-earner families. We find some variations in results depending on whether child behaviour is reported by primary carers (in most cases mothers) or teachers. This suggests potential reporter bias or differences in child behaviour across contexts. Further, we find less consistent support for within-child variation in behavioural problems explained by changes in parental employment conditions within families, nor do we find differences in the association between parental employment conditions and child behaviour as the child ages over a four-year period. This highlights that much of the variation in child behaviour is explained by differences in parental employment conditions across families.

Keywords Parental employment conditions · Work-family · Child behavioural problems · Dual-earner families · Australia

1 Introduction

Families and workplaces have undergone many changes in recent decades prompting much needed research on the associations between current work and family

✉ Jack Lam
j.lam@uq.edu.au

¹ Australian Research Council Centre of Excellence for Children and Families Over the Life Course, Institute for Social Science Research, The University of Queensland, Level 2, Cycad Building (1018), 80 Meiers Road, Indooroopilly, Queensland 4068, Australia

arrangements and a range of outcomes, including outcomes for children. Previous research has focused on the time pressures faced by families given the shift from a dominant male breadwinner model to a dual-earner model in which neither partner is available for full time care duties (Blossfeld and Drobnič 2001; Fox et al. 2013). As mother's labour force participation rates have increased over time, with fewer women withdrawing from employment for mothering and child care responsibilities, researchers and policy makers are increasingly focusing on understanding how families manage conflicting work and family demands (Den Dulk et al. 2013; Kelly et al. 2014).

Concerns have been raised not just about the implications for employees, but also for children whose parents work long hours or experience adverse work conditions (Gennetian et al. 2008; Han 2005; Han and Fox 2011; Hsin and Felfe 2014; Joshi and Bogen 2007; Miller and Chang 2015; Strazdins et al. 2006). Key findings show that parents' longer work hours, and increases in work hours are associated with worse child behaviour (Gennetian et al. 2008; Johnson et al. 2013; Kalil et al. 2014). One reason parents' work hours, and especially maternal employment, may be linked with worse child behaviour is due to increased hours of non-parental care, and less positive mother-child interactions (Nomaguchi 2006). Increased work hours may be associated with fewer occasions for mother-child interactions and less opportunities for mother-child bonding. Similarly, researchers report parents' employment in nonstandard hours or night/evening shifts are linked with unfavourable child outcomes (Han 2005; Han and Fox 2011; Joshi and Bogen 2007; Miller and Chang 2015; Strazdins et al. 2006). The mechanisms linking parental employment in nonstandard work and negative child behaviour have been shown to occur through variations in mothers' mental health and the type and quality of childcare (Han 2005), as well as lower maternal knowledge of children's whereabouts and activities (Han and Fox 2011).

In this paper, we aim to contribute to the literature in three ways. First, we focus on dual-earner Australian families with children. With some exceptions (e.g. Strazdins et al. 2006), little research has investigated the associations between parental employment conditions and child behaviour in *dual-earner* families. Dual-earner families now comprise the majority of Australian families with children (Baxter and Strazdins 2013). Although dual earner households may be more time poor than single earner households, the additional economic resources contributed by a second earner may offset the effects of greater time scarcity on child outcomes, which in turn will influence whether parental work characteristics are associated with child behavioural problems (Hill 1949; McCubbin and Patterson 1983; McCubbin and McCubbin 1993). In other words, higher levels of household economic resources may enable better strategies, such as more structured activities that buffer children from the work stress experienced by parents. Researchers also find that the associations between parental job quality and child behavioural problems is stronger in low-income or lone-mother families, as compared to mid-to-high income and couple families (Strazdins et al. 2010). This suggests more economically advantaged households may be better positioned to buffer their children from the stress they experience in employment. Given the focus of this study on dual-earner families, we test whether there may be an association between parental employment conditions and child behavioural problems, even though they may be better placed to respond to unfavourable work conditions.

Second, we draw on longitudinal data to investigate within-person changes in employment conditions and child behavioural problems across three points in time.

This approach enables examination of the associations between changes in parental job characteristics and changes in child behaviour. It also enables control of unobserved heterogeneity across families that may be driving some of the differences observed in previous cross-sectional studies. Further, we are able to examine whether the associations between parental employment characteristics and child behaviour vary by the age of the child for the same families. Younger children may require more parental attention and hence experience worse behavioural problems when parents are working long hours or have low job security. At the same time, older children may be more affected by negative parental work conditions, as they may be more acutely aware of parental stress.

Finally, we draw on a dataset which contains assessments of child behavioural problems from both parents and teachers. Most research finds low agreement between mothers, fathers, and teachers reports of children's behaviour (Achenbach et al. 1987; Grietens et al. 2004; Stanger and Lewis 1993; Verhulst and Akkerhuis 1989). This low agreement may stem from different behaviours of children whilst in the company of mothers, fathers and teachers, observations of different types of child activities across different settings, such as school compared to home, or it may be due to reporting differences. For example, parents may report differently than teachers when assessing child behaviour because they have fewer comparison referents to benchmark their assessments against, or they may be less critical than others who have fewer emotional ties to the child. Additionally, parents who are more stressed by their employment conditions may be more likely to perceive greater behavioural problems in their child than parents who are less stressed (Chilcoat and Breslau 1997; Treutler and Ekins 2003; Youngstrom et al. 2000). Although we do not have the data to disentangle these various explanations of any observed variations in reports, it is important to take account of potential differences in results by investigating differences in our results according to the reporting source of children's behaviour.

1.1 Parental Employment Conditions and Child Behaviour

1.1.1 *Employment Time*

Time spent in paid employment is associated with earnings and access to resources such as childcare, education, housing, neighbourhoods and health care, all of which are associated with favourable outcomes for children (Brooks-Gunn and Duncan 1997; Duncan et al. 1994). Too much time in employment however, particularly if both parents are employed, may be associated with negative behaviours for children. One of the main reasons why parental employment may negatively affect child behaviour is that employment may reduce the time parents spend with their children, thereby reducing the opportunities for children to develop safe, secure and loving relationships with parents and in turn, the basic socio-emotional competencies and non-cognitive skills that are required for effective learning and development. Although these competencies and skills may be acquired from other sources, such as grandparents, siblings, paid child carers, peers and teachers, it is generally believed that parents are a key source for the acquisition of these traits, and the primary carers are the ones with whom young children develop their attachments.

At the same time, we know that mothers in employment will reduce time in other activities, such as housework, personal care and leisure in order to quarantine time for children. This suggests that even if mothers are working long hours, their time with children may not decline as much as their time on other activities (Craig 2007; Milkie et al. 2009). If this is the case, we may not observe a strong association between mothers' longer hours of employment and child behavioural problems. However, in accordance with family stress theory, if mothers are working longer hours *and* giving up leisure time and personal care to spend time with their children, we may expect mothers to experience higher stress, and this may translate to worse child behaviour.

Existing literature also shows that fathers play an important role in child development with greater paternal involvement associated with fewer problem behaviours in children (Amato and Rivera 1999). Fathers' time with children is important as scholars have shown that the activities fathers and children engage in, such as leisure and play, provides children with important social skills (Paquette 2004). Furthermore, scholars have suggested that fathers engage children in authoritative parenting which has positive outcomes for children (Marsiglio et al. 2000).

Most of the literature, however, has focused more on the negative consequences of paternal *unemployment* rather than long paternal work hours (McLoyd 1989). This research has found that fathers' unemployment, and corresponding income loss is associated with child's risk of problem behaviours, and reduced aspirations and expectations (McLoyd 1989). Similarly, family poverty is associated with children's ability and achievement, such as lower rates of school completion (Brooks-Gunn and Duncan 1997; Duncan et al. 1994). An underlying assumption has been that fathers' employment is favourable for families due to the persistence of relatively traditional gendered expectations about men's role as important breadwinners of households (Tinsley et al. 2015). There is evidence that fathers' lower work hours are associated with more time in leisure activities with their school-age children, though fathers work hours are not related to their time spent engaging children in activities such as reading or homework (Marsiglio 1991). Also only when fathers work very long hours (55 h or more per week) do children exhibit significantly higher levels of externalizing behaviours, defined as delinquent and aggressive behaviour (Johnson et al. 2013).

Hypothesis 1: In our sample of dual-earner families, longer paternal and maternal work hours will be associated with more child behavioural problems with the association stronger for maternal work hours than paternal work hours.

1.1.2 Job Security

Family systems theory highlights the interconnectedness amongst family members and the importance of understanding the family as an emotional unit (Bowen 1978; Kerr and Bowen 1988). If parents have high job security they may be more emotionally secure and more able to provide a loving and secure environment for children. We thus expect high job security of parents to be associated with better child behaviour. The mechanism underlying the associations between parental employment conditions and child behaviour has been hypothesised to be related to parental stress and the effects on parenting styles and home environments. The

'stress' perspective (Conger and Elder 1994; McLoyd et al. 1994) would suggest that parental job insecurity may influence their emotional warmth and behaviour towards the children. Parental stress, which may stem from employment conditions, may lead to feelings of role strain, overload and withdrawal which may be problematic for children (Crouter and Bumpus 2001; Repetti 1989, 1994; Repetti and Wood 1997). Parents with higher work stress may be less attentive to their children and may be less knowledgeable about their children's experiences, whereabouts and activities (Bumpus et al. 1999). Conversely, parents who have less work stress may be more attentive to their children and are able to spend more time monitoring their children and engaging in activities with them (Kerns et al. 2001).

Previous research has focused on the association between parental job security and children's outcomes, such as their academic performance, work beliefs and attitudes (Barling et al. 1998, 1999), as well as children's money anxiety, money motives, and intrinsic desire to work (Lim and Sng 2006). While these studies have measured both paternal and maternal job security, results often indicate that fathers' job security is more strongly linked with children's positive outcomes. Further, one study also finds that while husbands' job security is linked with wives' lower money anxiety, there is no significant association between wives' own job security and her own money anxiety, suggesting that the father/husband's job security has the greatest implications for the household (Lim and Sng 2006). Overall, this suggests the underlying persistence of men as the expected or actual breadwinner in the family may render fathers' job security more consequential for family members (Lim and Sng 2006).

Hypothesis 2: In our sample of dual-earner families, greater paternal and maternal job security will be associated with less child behavioural problems with the association stronger for paternal job security than maternal job security.

1.1.3 Age of the Child

Attachment theory suggests a weaker association between parental employment conditions and child behaviour as the child ages. One reason may be that the attachment style of children becomes more flexible and more resilient to change in parenting styles over time (Howes et al. 1998). Further, it is conceivable that parental employment characteristics will have differential effects on child outcomes at different child ages because parent-child contact changes over time. According to Shanahan et al. (2007), the parent-child relationship evolves as the child moves through middle childhood from around age five through age twelve. This is marked by a relationship that becomes increasingly mutual rather than unidirectional, and entails increased exposure to contexts and influences outside the immediate family (such as schools, neighbourhoods, and peer groups). These changes are likely to lead to changes in the nature of the parent-child relationship. The salience of parents' employment conditions may become less consequential over time, as the child develops attachments and relationships at school and in peer groups, and becomes more independent.

At the same time, older children, particularly those of school-age may be more aware of parental stress and more prone to their consequences. Parental work conditions may be less salient for younger children as they might be less aware of, and less

affected by, parental work stress. As long as their overall needs are being attended to, very young children may be less likely to experience adverse outcomes from parental stress. Therefore, we may observe a stronger association between parental employment conditions and child behaviour as the child ages, because older children may be more aware of parental stress than younger children. Since we do not have clear expectations about the direction of the association between parental employment conditions and child behavioural outcomes we do not develop a specific hypothesis. While we believe that the associations may vary with child age, our analyses here are exploratory and will be interpreted in light of the above arguments.

In addition to contemporaneous circumstances, children's developmental outcomes evolve over time and may reflect accumulated consequences of parents' employment histories. As we have data for three time points, spanning approximately four years of middle childhood (~age 4–9), we assess whether children's developmental trajectories are associated with parents' employment conditions trajectories. That is, in addition to examining the cross-sectional associations between parental employment conditions and child behavioural problems, we also investigate the associations between *trajectories* of parents' employment conditions and *trajectories* of child behaviour over time.

In sum, we draw on previous studies to examine the associations between parental employment conditions and child behaviour. Our dataset is longitudinal and enables examination of changes in both mothers' and fathers' employment hours and job security, as well as comparisons across families with differing parental work conditions. Furthermore, we are able to assess variations in our results according to child age and whether a parent or teacher reports on child behavioural problems. This adds a high level of robustness to our results and provides insight into possible variations across contexts.

2 Method

Data for the project were drawn from the Longitudinal Study of Australian Children (LSAC), an accelerated cohort study of children which commenced data collection in 2004 and includes biennial interviews and self-complete questionnaires for study children and their parents. Participants in the LSAC study were selected through a two-stage clustered sampling design with postcodes sampled first, followed by children. Eligible participants were either citizens or permanent residents of Australia, born between March 2003 and February 2004 ('Baby' [B] cohort) or March 1999 to February 2000 ('Kindergarten' [K] cohort). Wave 1 interviews were completed with 10,090 respondents (5107 B cohort and 4983 K cohort). For the purpose of our analyses, the data is limited to waves 1–3 of the "Kindergarten" (K) cohort and waves 3–5 of the "Baby" (B) cohort when the study children were aged from 4 to 9 years. Total sample attrition amounted to 20% by wave 5 of the 'Baby' cohort, and 13.1% by wave 3 of the 'Kindergarten' cohort. Analysis (not shown) reveals that children exiting the study through attrition were more likely to be socio-economically disadvantaged in a number of ways (e.g. lower levels of parental education, less secure maternal employment, younger maternal age), had more behavioural problems and were more likely to be Indigenous. Interpretation of our results should therefore bear in mind that the analytic sample is more reflective of the experiences of a relatively advantaged subset of children. Although we are unable to offer any definitive conclusion regarding

the direction or magnitude of any possible biases, earlier analyses (not shown) tested for the presence of interactions between various indicators of disadvantage and parental work hours and job security. These analyses failed to uncover any evidence of heterogeneity in the main effects under study, suggesting that any biases are likely to be small in magnitude.

In addition to attrition, missing data may arise through item refusal or failure to complete all survey instruments, in particular the self-complete component of each wave and the teacher survey. For our analysis, this particularly affects items relating to job security, and teacher reports of child behavioural problems. Missing rates for these items range from 13 to 29%. Other items, which form part of the main interview in each wave, have much lower frequencies of missing data, from 0 to 5%. In order to minimize bias associated with non-random missingness and maximize the efficiency of our analyses, missing data were imputed using multiple imputation with chained estimates (MICE). A total of ten imputed data sets were created and used for further analysis.

Due to our focus on dual-earner families, we discard child-waves when the child was not resident in a couple family (3671 observations) or when either parent was not employed (7884 observations). These restrictions produce an analytic sample of 6674 children (14,907 observations).

The primary dependent variable is constructed from the primary carer's and teacher's responses to the Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997), an instrument which assesses children's social, emotional, and behavioral development. The primary carer is the biological mother 96.9% of the time, the biological father 2.8% of the time, with the remaining 0.3% representing adoptive parents (0.2%) and step and foster parents. Henceforth, we refer to the primary carer as mother. With regard to teacher reports, it is important to note that the reporter may change at every wave, introducing an additional source of temporal variability in reported behavioural problems.

Items are included in the measure which are intended to capture five different aspects of the child's behaviour: 'pro-social behaviour' (e.g. 'considerate of other's feelings'), 'hyperactivity' (e.g. 'easily distracted'), 'emotional problems' (e.g. 'often seemed worried'), 'conduct problems' (e.g. 'often fights/bullies children'), and 'peer problems' (e.g. 'has at least one good friend'). The total score on the instrument is the sum of all 25 items measuring aspects of the child's behaviour. The items are presented as a series of statements about the child's behaviour over the past six months, which the mother/teacher may rate as 'not true' [0], 'somewhat true' [1], or 'certainly true' [2]. A number of items which reference positive aspects of the child's behaviour are reverse coded. Cronbach's alpha for the total score is .79 for 4–5 year old children, .81 for 6–7 year old children, and .83 for 8–9 year old children. Question wording and format is consistent over time, with the exception of two items in the 'conduct problems' subscale, where 'often lies or cheats' and 'steals' are used for older children (ages 6–7 and 8–9) in place of 'argumentative with adults' and 'been spiteful to others'. As raw scores on the instrument are positively skewed, the square-root of the raw score (the nearest approximation to normality among common transformations) was used for modelling purposes. The resulting scores were standardized to mean 0 and standard deviation 1, with higher scores representing more behavioural problems. The correlation between mother and teacher reports of socio-emotional functioning is 0.39.

Mothers' and fathers' work hours and job security were the primary independent variables. Work hours is continuous (for all jobs) and is top-coded at 70 h per week for both mothers and fathers. Both parents reported on their own work conditions themselves. To make the coefficients more interpretable, we divided work hours by 20. Hence, in the results tables, the estimated coefficients represent the expected change in the outcome for a 20-h increase in work hours. Job security was measured with a single item ("how secure do you feel in your present job?") with possible responses from 1 'very insecure' to 4 'very secure'. While a scale of job security comprising several items would be preferable, it is not uncommon in the existing literature to use a one-item question to assess job security (see Burgard et al. 2009; McGuinness et al. 2012).

Descriptive statistics for the sample are presented in Table 1. The sample contains roughly equal numbers of male (3375) and female (3299) children who are overwhelmingly (96%) born in Australia and are non-Indigenous. Average maternal age when the study child was born was 30.88 years. Both mothers' and fathers' education levels were similar to the general population, with 39.4% of mothers and 31.3% of fathers reporting a university degree, compared to 40% of women and 30% of men aged 25–34 in the population overall (Australian Bureau of Statistics 2012). Mothers averaged 25 h paid work per week, while fathers' average weekly hours was 46.2. Average job security is between 'secure' and 'very secure' for both mothers and fathers.

All models control for the child's age (coded -2 at age 4/5, 0 at age 6/7, and 2 at age 8/9) and sex (and the interaction between child age and sex), the mother's age at time of the child's birth, a dummy variable for cohort membership ($1 =$ "Kindergarten"), gestation weeks, ethnicity ("Australian born, non-Indigenous", "Non-Australian born", and "Indigenous"), number of siblings in the household, parents' education ("University Degree", "Completed secondary/non-degree post-secondary qualification", or "Incomplete secondary"), log of family income, the Socio-Economic Index for Areas (Australian Bureau of Statistics 2011) score of the child's place of residence, and experience of financial hardships in the past year (measured as the number of hardship events experienced 'due to lack of money', including sought assistance from a welfare or community organization, pawned or sold something because needed cash, were unable to heat (or cool) home, went without meals, could not pay the mortgage or rent payments in time, or could not pay bills on time).

Modelling is conducted via a series of 'hybrid' or mixed models (Allison 2009). Hybrid models split all time-varying predictors into the person-specific mean values across survey waves (the 'between' effects) and time-specific deviations from the mean (the 'within' effects), and represent a compromise between more conventional fixed and random effects models. Parameter estimates for the within effects, which represent the effect of a *change* in the predictor on the outcome, are equal to the estimates obtained from a fixed effects model, meaning that they are not confounded by any time-invariant unobserved variables. On the other hand, estimates for the between effects indicate differences across different children.

Two sets of models were estimated, 1) the effects of mother's and fathers' work hours and job security on mother and teacher reports of behavioral problems and 2) the same models, including interactions between parental work conditions and child age in order to assess variations in results according to the age of the child.

Table 1 Descriptive statistics for baby and kindergarten cohorts (6674 children/14,907 obs)

Variable	Imputed %	Mean / %	SD
Behavioural problems (primary carer report)	4.3	-0.08	0.96
Behavioural problems (teacher report)	19.6	-0.05	1.02
Mother average weekly hours	0	25	13.8
Father average weekly hours	0	46.2	11.6
Mother job security	16.7	3.28	0.79
Father job security	28.5	3.27	0.79
Log (parental income +1000)	3.7	11.61	0.65
Number of hardships	0.8	0.18	0.54
SEIFA	0	10.17	0.74
Number of siblings	0	1.46	0.87
Mothers age at birth	0.3	30.88	4.71
Gestation weeks	1.7	39.23	2.01
Sex %			
Male	0	50.44	
Female		49.56	
Ethnicity %			
Aust born non indigenous	0	96	
Non Aust born		2.1	
Indigenous		2	
Mother education %			
Degree	0.1	39.4	
Completed secondary or non degree post secondary		48.7	
Incomplete secondary		11.8	
Father education %			
Degree	2.5	31.3	
Completed secondary or non degree post secondary		56.7	
Incomplete secondary		11.9	
Observations		14,907	
Children		6674	

3 Results

We present the estimates for the effects of work hours and job security on child behavioural problems, with and without interactions between job characteristics and child age, in Table 2. Mother's work hours show a weak positive association with child behavioural problems comparing between children (0.04, $p < 0.05$) and no significant association within children. This indicates that children whose mothers work long hours have slightly higher behavioural problems, but that increases or decreases in mother's work hours over time are unrelated to changes in child behavioural problems, as reported by mothers. Teacher reports, however, show a stronger relationship

Table 2 Hybrid regression models for child behavioural problems on job characteristics for dual employed couples

	Mother report		Teacher report	
	(M1)	(M2)	(M1)	(M2)
Mother's work conditions				
Work hours (between)	0.04*	0.04*	0.13***	0.13***
Work hours (within)	-0.00	-0.00	0.05*	0.05*
Work hours (between) * Age		0.02**		-0.00
Work hours (within) * Age		-0.01		-0.04*
Job security (between)	-0.12***	-0.12***	-0.01	-0.01
Job security (within)	-0.06***	-0.06***	-0.02	-0.02
Job security (between) * Age		-0.01		0.01
Job security (within) * Age		0.01		-0.00
Father's work conditions				
Work hours (between)	-0.04*	-0.04*	0.02	0.02
Work hours (within)	0.02	0.01	0.03	0.04
Work hours (between) * Age		0.01		0.00
Work hours (within) * Age		0.02		0.01
Job security (between)	-0.06**	-0.06**	-0.04*	-0.04*
Job security (within)	0.01	0.01	0.00	0.00
Job security (between) * Age		-0.01		0.00
Job security (within) * Age		0.01		0.00
Observations	14,907	14,907	14,907	14,907
Children	6674	6674	6674	6674

Source: Longitudinal Study of Australian Children waves 1–5

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; M1 = Model 1; M2 = Model 2; Controls for number of siblings, child age, child sex, the interaction between child age and child sex, log parental income, SEIFA, financial hardships, ethnicity, mother's age when the child was born, gestation weeks at birth, study cohort, and parents' education. Estimated on $m = 10$ imputed data sets

with mother's work hours. Comparing between children, we see a strong positive effect of mother's work hours on teacher reported child behavioural problems (0.13, $p < 0.001$). This implies that a 20 h difference in average work hours over the study period is associated with a difference in child behavioural problems equal to 13% of a standard deviation. In model 1, the within-child effect of mother's work hours is also significant for teacher reports (0.05, $p < 0.05$) suggesting that within child changes in mother work hours is linked with changes in behavioural problems. However, this is not observed in the results of child outcomes reported by mothers. We are unable to test whether these variations across mother and teacher reports are due to variations in reporting or variations in child behaviour across contexts. Either way these results highlight the importance of considering differential reports of child behaviour.

There are also two significant, but inconsistent, interactions between mother work hours and child age. In the mother report model, the positive parameter (0.02, $p < .01$) for *between* child mother work hours and child age suggests that children whose mothers average long(er) work hours over the study period experience less favourable developmental trajectories – on average their reported behavior improves by a smaller amount over time. This result is not however confirmed in the teacher report model. In contrast, the significant negative interaction between *within* child mother work hours and child age (-0.04 , $p < 0.5$) indicates that the children of mothers who *increase* their work hours over the study period have fewer behavioural problems at all time points – i.e. even before any increase occurs. However, beyond the direct effects of between mother work hours, there appears to be little consistency in the effects of mother work hours across mother and teacher report models.

Turning to mothers' job security, we see a notably stronger association with mother reported behavioural problems in children, both between (-0.12 , $p < 0.001$) and within (-0.06 , $p < 0.001$) children. In isolation, this suggests significant effects of mother's job security on child behavioural problems. However, this possibility is unsupported in the models based on teacher-reported child behavioural problems. In these models no significant effects of mother's job security on child behavioural problems emerge. Our results are therefore consistent with two broad possibilities. First, the apparent effects of mother's job security on child behavioural problems may arise from 'common-methods bias', with mother's negative perceptions of their own job security spilling over into negative perceptions of their child's behaviour. Second, the estimated effects may reflect real effects of mother's job security on child behaviour, but effects that are limited to the child's behaviour within the context of the home or the family sphere. Lacking a common rater of child behaviour across contexts, we are unable to adjudicate between these possibilities in this paper. It is however important to note that our results do *not* support any effect of mother's job security on child behaviour across home and school contexts. There are also no significant interactions between mother job security and child age.

Turning to fathers' employment conditions, we find a small negative association (-0.04 , $p < 0.05$) in child behavioural problems with higher father work hours, comparing across children. Note that child behavioural problems is reported by mothers here. However, within-child effects of father work hours are non-significant, suggesting that children's behavioural problems is not associated with *changes* in father work hours. Teacher reports of children's behavioural problems also show no significant association with father's work hours. Taken together, these results suggest no relationship between father work hours and child behaviour. Interactions between father work hours and child age are also non-significant in both primary carer and teacher report models.

Further we find that children of fathers with better average job security have significantly less behavioural problems (-0.06 , $p < 0.01$). Teacher reported behavioural problems also show a similar association with father's job security (-0.04 ; $p < 0.05$). Changes in fathers' job security are unrelated to changes in child's behavioural problems in either mother or teacher report models. There are no significant interactions with child age.

4 Discussion

Employment has undergone important changes in recent decades including the move towards increasing job insecurity of the workforce given the rise of precarious employment and increased employment of mothers. Dual-earner households are now the norm in Australia including in families with children (Baxter and Strazdins 2013). While research has focused on the effects of unemployment and adverse employment conditions, such as high job insecurity or long work hours on workers themselves, increasingly studies are also documenting their effects on children (Kalil et al. 2014). There is an emerging literature linking parental work characteristics and child wellbeing (Strazdins et al. 2010), but few studies have focused on dual earner families and few have data with reports of child behaviour from more than one source. In this paper, we contribute to the existing literature in three ways. First, we draw on a rich longitudinal data source which provides information on both mothers' and fathers' employment across multiple years to test within and between effects of parental employment conditions on child behavioural problems. Our approach enables adjustment for unmeasured heterogeneity and thus minimizes some potential errors in our results. Second, we focus on dual-earner families with children, a family type that now comprises the majority of Australian families with children (Baxter and Strazdins 2013). Further, given that dual-income families are on average better off than single earner families given their higher household income, we provide insight into whether economic resources help buffer the commonly observed link between unfavorable parental work conditions and worse child behaviour. Third, we examine both parents' (in our case, primarily mothers) and teachers' rating of child behavioural problems. Doing so allows us to test whether the relationship between parental employment conditions and child behaviour is observed both inside and outside the home environment. It also allows us to consider the possibility of common methods bias, as parents who may experience higher work stress may report higher child behavioural problems, or variations in child behaviour across context.

We draw on attachment theory and family stress theory to test the associations between parental work conditions and child behaviour in a sample of dual-income Australian families. These theories help inform our analyses, as they provide expectations for why parents' work hours and job security may affect child behaviour. Specifically, attachment theory would suggest that longer parental work hours may affect child behaviour because it limits the amounts of time that parents spend with their children. At the same time, family stress theory suggests that parental job insecurity is linked with worse child behaviour, as economic stress experienced by parents may influence their interactions with children, through inhibiting parental warmth or via parental withdrawal. Drawing on the uniqueness of the dataset with multiple raters of child wellbeing, we find partial support of these expectations, with mothers' longer work hours and fathers' lower job security predicting worse child behaviour. These associations were observed in both mothers and teachers reports of child behaviour.

One important distinction is that while parents know how many hours they (and their partners) are working and how secure their jobs are, teachers almost certainly do not. For example, if mothers who work long (or longer) hours feel guilty about the impact of this on their children, they might bias downwards their reporting of behavioural problems, but the same effect should not be present for teachers. This could be one

interpretation of the larger effect size for mothers' work hours on child behavioural problems as reported by teachers (0.13), compared to mothers (0.04). Because of this, while the pattern of findings for mothers' longer work hours predicting worse child behavior is consistent across mother and teacher reports, it could also be argued that greater emphasis should be given to the results that are based on teacher assessments of child behavioural problems.

While the size of the coefficients is small, ranging from 4 to 6% of a standard deviation for each unit of job security, as well as 4 to 13% of a standard deviation for every twenty hour increase in work hours, the effects are nevertheless statistically significant. As a comparison, consider that mothers' educational attainment when comparing those with completed secondary school and with university degrees explain 11% of a standard deviation of child wellbeing (not shown; available from authors).

Further, we also find that while mothers' higher job security and fathers' longer work hours were associated with better child behaviour when reported by the parents, these were not observed by the teachers. One possible reason for this may be reporter bias, such that parents' own particular work conditions may influence their perceptions of children's behaviour. For instance, the link between mothers' higher job security and better child behaviour as observed by mothers may be due to mothers lower stress levels (Phares et al. 1989). Contrary to our expectations, we also observe a relationship between fathers' longer work hours with better child behaviour. While we are not able to directly test this, a possible explanation may be that despite controlling for measures of income in our models, longer father work hours may signify fathers in more prestigious jobs, with implications for higher levels of resources and more affluent lifestyles resulting in better child behaviour. However, further research is needed to more closely investigate this relationship.

More generally, we observe broadly consistent associations of between- child effects of parental work conditions (i.e. comparing across children with differing parental employment conditions), rather than within- child effects (comparing the same children when parental employment conditions varied), suggesting much of the explanations of child behaviour in this sample is attributed to differences across parents in their employment conditions, rather than variations within parents across waves. In addition, given the availability of three waves of data, we also examine whether parental employment conditions may be related to *trajectories* of child behaviour. That is, parent-average work hours and job security may be linked to better or worse *trajectories* of child development over time. We find less support for that hypothesis here. We find that while children's developmental trajectories are less favourable when the child's mother works long hours on average over the study period, this is not consistent across parent and teacher reports of child behaviour.

As supplementary analyses, we also attempted to better understand the ways in which mothers' and fathers' employment conditions may operate conjointly, by estimating models with interactions between mother and father work hours on child behaviour. However, we found no significant results. This suggests that the relationship between mother's work hours and child behaviour is not moderated by higher or lower father work hours. Further, given the availability of measures pertaining to employment entitlements, we also considered whether flexible work arrangements may moderate mothers' work hours and child behavioural problems, but we also do not find that to be the case in our sample. To check the impact of the imputation process on our results we

re-fitted the models using only complete person-years. The results were overall very similar, as the main change was an increase in the estimated standard errors due to loss of information. In a few cases this resulted in coefficients that were marginally significant in the full models failing to achieve statistical significance in the complete case models, although the magnitude of the point estimates was very similar. Specifically, this was the case for the 'between' effects of fathers' work hours (in the parent report model) and fathers' job security (in the teacher report model), as well as the within effect of mother's work hours for the teacher reported data.

This study has a few limitations. First, our focus on dual-earner, intact households means that we are limited in the generalizability of our findings. Second, our measure of job security is based on only one item and may only partially capture the level of variability in parental job insecurity. Third, while we have three waves of data spanning four years, perhaps a longer time span, over a wider range of ages, would be more useful for examining possible differences by age.¹ That is, across the ages observed, the children in our sample nevertheless all fall within school age. It may therefore be fruitful to consider children's different development stages across a longer time period, and test whether the effects of parental work conditions on child behaviour changes once children reach adolescence. Future research on samples of children across a wider range of ages and with wider distributions of socio-economic resources may provide a richer understanding of the effects of parental employment conditions.

Most research focuses on respondents across a variety of household types, or focuses on cross-sectional differences between groups. Our study concentrated on a sample of dual-earner, relatively privileged households, to provide empirical evidence on the link between work hours and job security of mothers and fathers with child behaviour. Our results show that even in families where both parents are in employment and where household resources are likely to be higher than in lone parent or single earner families, child behaviour is sensitive to parental employment conditions. Further, we find that time availability of mothers, and stability in employment of fathers continue to be consequential for better child behaviour suggesting the enduring importance of traditional gender roles in parenting responsibilities. Further, we are able to examine child wellbeing as reported by both parents and teachers, enabling insight into how reports from different sources confirm or challenge our findings. We find variations in results across report sources indicating the need for further investigation of the source of these variations and the importance of caution when interpreting results from one source alone.

In sum, our study adds to the existing body of literature on adverse parental employment conditions as linked with negative child behaviour. However, our results also suggest that these associations are complex, and that household context, employment status of both parents, child age, and the source of rater for child wellbeing are all

¹ The three waves of data used in the analysis span 2004 to 2008, leading to the run-up to the global financial crisis (GFC). Note, however, that Australia was relatively unaffected by the GFC and the mean job security remained quite high on average for both mothers and fathers in this sample.

important factors to consider. Future research which considers these complexities could push forth existing knowledge on this topic, to inform organizational and public policies on the impact of negative work conditions, and to consider programs to support working families.

Acknowledgement This research was supported by the Australian Research Council Centre of Excellence for Children and Families over the Life Course (project number CE140100027). The Centre is administered by the Institute for Social Science Research at The University of Queensland, with nodes at The University of Western Australia, The University of Melbourne and The University of Sydney. This paper uses unit record data from Growing Up in Australia, the Longitudinal Study of Australian Children. The study is conducted in partnership between the Department of Social Services (DSS), the Australian Institute of Family Studies (AIFS) and the Australian Bureau of Statistics (ABS). The findings and views reported in this paper are those of the authors and should not be attributed to the ARC, DSS, AIFS or the ABS. We also acknowledge the assistance of Nicole Kapelle, and feedback from participants at the 2016 *Society for Longitudinal and Life Course Studies International Conference*, the *International Sociological Association (ISA)*, *Research Committee on Social Stratification (RC28) 2016 conference*, and the *7th Workshop on the Economics of Health and Well-Being*, organized by Monash University.

References

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*(2), 213–232. doi:10.1037/0033-2909.101.2.213.
- Allison, P. D. (2009). *Fixed effects regression models* (Vol. 160). Los Angeles: SAGE.
- Amato, P. R., & Rivera, F. (1999). Paternal involvement and children's behavior problems. *Journal of Marriage and the Family*, *61*(2), 375–384. doi:10.2307/353755.
- Australian Bureau of Statistics. (2011). *Socio-economic indexes for areas (SEIFA): Technical paper*. Canberra: ABS.
- Australian Bureau of Statistics (2012). In ABS (Ed.), 1301.0 - Year book Australia, 2012. Canberra: ABS.
- Barling, J., Dupre, K. E., & Hepburn, C. G. (1998). Effects of parents' job insecurity on children's work beliefs and attitudes. *Journal of Applied Psychology*, *83*(1), 112–118. doi:10.1037/0021-9010.83.1.112.
- Barling, J., Zacharatos, A., & Hepburn, C. G. (1999). Parents' job insecurity affects children's academic performance through cognitive difficulties. *Journal of Applied Psychology*, *84*(3), 437–444. doi:10.1037/0021-9010.84.3.437.
- Baxter, J., & Strazdins, L. (2013). Children's views of parents' jobs. In Australian Institute of Family Studies (Ed.), *The longitudinal study of Australian children. Annual statistical report 2013* (pp. 13–30). Melbourne: AIFS.
- Blossfeld, H.-P., & Drobníč, S. (2001). *Careers of couples in contemporary societies: From male breadwinner to dual earner families*. New York: Oxford University Press.
- Bowen, M. (1978). *Family therapy in clinical practice*. New York: J. Aronson.
- Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children*, *7*(2), 55–71. doi:10.2307/1602387.
- Bumpus, M. F., Crouter, A. C., & McHale, S. M. (1999). Work demands of dual-earner couples: Implications for parents' knowledge about children's daily lives in middle childhood. *Journal of Marriage and Family*, *61*(2), 465–475. doi:10.2307/353762.
- Burgard, S. A., Brand, J. E., & House, J. S. (2009). Perceived job insecurity and worker health in the United States. *Social Science & Medicine*, *69*(5), 777–785. doi:10.1016/j.socscimed.2009.06.029.
- Chilcoat, H. D., & Breslau, N. (1997). Does psychiatric history bias Mothers' reports? An application of a new analytic approach. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(7), 971–979. doi:10.1097/00004583-199707000-00020.
- Conger, R. D., & Elder, G. H. (1994). *Families in troubled times: adapting to change in rural America*. New York: Aldine de Gruyter.
- Craig, L. (2007). How employed mothers in Australia find time for both market work and childcare. *Journal of Family and Economic Issues*, *28*(1), 69–87. doi:10.1007/s10834-006-9047-2.

- Crouter, A. C., & Bumpus, M. F. (2001). Linking parents' work stress to children's and adolescents' psychological adjustment. *Current Directions in Psychological Science*, *10*(5), 156–159. doi:[10.1111/1467-8721.00138](https://doi.org/10.1111/1467-8721.00138).
- Den Dulk, L., Groeneveld, S., Ollier-Malaterre, A., & Valcour, M. (2013). National context in work-life research: a multi-level cross-national analysis of the adoption of workplace work-life arrangements in Europe. *European Management Journal*, *31*(5), 478–494. doi:[10.1016/j.emj.2013.04.010](https://doi.org/10.1016/j.emj.2013.04.010).
- Duncan, G. J., Brooks-Gunn, J., & Klebanov, P. K. (1994). Economic deprivation and early childhood development. *Child Development*, *65*(2), 296–318. doi:[10.2307/1131385](https://doi.org/10.2307/1131385).
- Fox, L., Han, W.-J., Ruhm, C., & Waldfogel, J. (2013). Time for children: trends in the employment patterns of parents, 1967–2009. *Demography*, *50*(1), 25–49. doi:[10.1007/s13524-012-0138-4](https://doi.org/10.1007/s13524-012-0138-4).
- Gennetian, L. A., Lopoo, L. M., & London, A. S. (2008). Maternal work hours and adolescents' school outcomes among low-income families in four urban counties. *Demography*, *45*(1), 31–53. doi:[10.1353/dem.2008.0003](https://doi.org/10.1353/dem.2008.0003).
- Goodman, R. (1997). The strengths and difficulties questionnaire: a research note. *Journal of Child Psychology and Psychiatry*, *38*(5), 581–586. doi:[10.1111/j.1469-7610.1997.tb01545.x](https://doi.org/10.1111/j.1469-7610.1997.tb01545.x).
- Grietens, H., Onghena, P., Prinzie, P., Gadeyne, E., Van Assche, V., Ghesquière, P., et al. (2004). Comparison of mothers', fathers', and teachers' reports on problem behavior in 5- to 6-year-old children. *Journal of Psychopathology and Behavioral Assessment*, *26*(2), 137–146. doi:[10.1023/b:joba.0000013661.14995.59](https://doi.org/10.1023/b:joba.0000013661.14995.59).
- Han, W.-J. (2005). Maternal nonstandard work schedules and child cognitive outcomes. *Child Development*, *76*(1), 137–154. doi:[10.1111/j.1467-8624.2005.00835.x](https://doi.org/10.1111/j.1467-8624.2005.00835.x).
- Han, W.-J., & Fox, L. E. (2011). Parental work schedules and children's cognitive trajectories. *Journal of Marriage and Family*, *73*(5), 962–980. doi:[10.1111/j.1741-3737.2011.00862.x](https://doi.org/10.1111/j.1741-3737.2011.00862.x).
- Hill, R. (1949). *Families under stress: adjustment to the crises of war separation and reunion*. New York: Harper & Brothers.
- Howes, C., Hamilton, C. E., & Phillipsen, L. C. (1998). Stability and continuity of child-caregiver and child-peer relationships. *Child Development*, *69*(2), 418–426. doi:[10.2307/1132175](https://doi.org/10.2307/1132175).
- Hsin, A., & Felfe, C. (2014). When does time matter? Maternal employment, children's time with parents, and child development. *Demography*, *51*(5), 1867–1894. doi:[10.1007/s13524-014-0334-5](https://doi.org/10.1007/s13524-014-0334-5).
- Johnson, S., Li, J., Kendall, G., Strazdins, L., & Jacoby, P. (2013). Mothers' and fathers' work hours, child gender, and behavior in middle childhood. *Journal of Marriage and Family*, *75*(1), 56–74. doi:[10.1111/j.1741-3737.2012.01030.x](https://doi.org/10.1111/j.1741-3737.2012.01030.x).
- Joshi, P., & Bogen, K. (2007). Nonstandard schedules and young children's behavioral outcomes among working low-income families. *Journal of Marriage and Family*, *69*(1), 139–156. doi:[10.1111/j.1741-3737.2006.00350.x](https://doi.org/10.1111/j.1741-3737.2006.00350.x).
- Kalil, A., Dunifon, R., Crosby, D., & Houston Su, J. (2014). Work hours, schedules, and insufficient sleep among mothers and their young children. *Journal of Marriage and Family*, *76*(5), 891–904. doi:[10.1111/jomf.12142](https://doi.org/10.1111/jomf.12142).
- Kelly, E. L., Moen, P., Oakes, J. M., Fan, W., Okechukwu, C., Davis, K. D., et al. (2014). Changing work and work-family conflict: evidence from the work, family, and health network. *American Sociological Review*, *79*(3), 485–516. doi:[10.1177/0003122414531435](https://doi.org/10.1177/0003122414531435).
- Kerns, K. A., Aspelmeier, J. E., Gentzler, A. L., & Grabill, C. M. (2001). Parent-child attachment and monitoring in middle childhood. *Journal of Family Psychology*, *15*(1), 69–81. doi:[10.1037/0893-3200.15.1.69](https://doi.org/10.1037/0893-3200.15.1.69).
- Kerr, M. E., & Bowen, M. (1988). *Family evaluation: an approach based on Bowen theory*. New York: Norton & Company.
- Lim, V. K., & Sng, Q. S. (2006). Does parental job insecurity matter? Money anxiety, money motives, and work motivation. *Journal of Applied Psychology*, *91*(5), 1078–1087. doi:[10.1037/0021-9010.91.5.1078](https://doi.org/10.1037/0021-9010.91.5.1078).
- Marsiglio, W. (1991). Paternal engagement activities with minor children. *Journal of Marriage and the Family*, *53*(4), 973–986. doi:[10.2307/353001](https://doi.org/10.2307/353001).
- Marsiglio, W., Amato, P., Day, R. D., & Lamb, M. E. (2000). Scholarship on fatherhood in the 1990s and beyond. *Journal of Marriage and Family*, *62*(4), 1173–1191. doi:[10.1111/j.1741-3737.2000.01173.x](https://doi.org/10.1111/j.1741-3737.2000.01173.x).
- McCubbin, M. A., & McCubbin, H. I. (1993). Families coping with illness: the resiliency model of family stress, adjustment, and adaptation. In C. B. Danielson, B. Hamel-Bissell, & P. Winstead-

- Fry (Eds.), *Families, health, & illness: perspectives on coping and intervention* (pp. 21–61). St. Louis: Mosby.
- McCubbin, H. I., & Patterson, J. M. (1983). The family stress process. *Marriage & Family Review*, 6(1–2), 7–37. doi:10.1300/J002v06n01_02.
- McGuinness, S., Wooden, M., & Hahn, M. H. (2012). Job insecurity and future labour market outcomes. *Melbourne institute working paper no. 12*. Melbourne: Melbourne Institute of Applied Economic and Social Research.
- McLoyd, V. C. (1989). Socialization and development in a changing economy: the effects of paternal job and income loss on children. *American Psychologist*, 44(2), 293–302. doi:10.1037/0003-066X.44.2.293.
- McLoyd, V. C., Jayaratne, T. E., Ceballo, R., & Borquez, J. (1994). Unemployment and work interruption among African American single mothers: effects on parenting and adolescent socioemotional functioning. *Child Development*, 65(2), 562–589. doi:10.1111/j.1467-8624.1994.tb00769.x.
- Milkie, M. A., Raley, S. B., & Bianchi, S. M. (2009). Taking on the second shift: time allocations and time pressures of U.S. parents with preschoolers. *Social Forces*, 88(2), 487–517. doi:10.1353/sof.0.0268.
- Miller, D. P., & Chang, J. (2015). Parental work schedules and child overweight or obesity: does family structure matter? Parental work schedules and child obesity. *Journal of Marriage and Family*, 77(5), 1266–1281. doi:10.1111/jomf.12215.
- Nomaguchi, K. M. (2006). Maternal employment, nonparental care, mother-child interactions, and child outcomes during preschool years. *Journal of Marriage and Family*, 68(5), 1341–1369. doi:10.1111/j.1741-3737.2006.00332.x.
- Paquette, D. (2004). Theorizing the father-child relationship: mechanisms and developmental outcomes. *Human Development*, 47(4), 193–219. doi:10.1159/000078723.
- Phares, V., Compas, B. E., & Howell, D. C. (1989). Perspectives on child behavior problems: Comparisons of children's self-reports with parent and teacher reports. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 1(1), 68–71. doi:10.1037/1040-3590.1.1.68.
- Repetti, R. L. (1989). Effects of daily workload on subsequent behavior during marital interaction: the roles of social withdrawal and spouse support. *Journal of Personality and Social Psychology*, 57(4), 651–659. doi:10.1037/0022-3514.57.4.651.
- Repetti, R. L. (1994). Short-term and long-term processes linking job stressors to father-child interaction. *Social Development*, 3(1), 1–15. doi:10.1111/j.1467-9507.1994.tb00020.x.
- Repetti, R. L., & Wood, J. (1997). Effects of daily stress at work on mothers' interactions with preschoolers. *Journal of Family Psychology*, 11(1), 90–108. doi:10.1037/0893-3200.11.1.90.
- Shanahan, L., McHale, S. M., Crouter, A. C., & Osgood, D. W. (2007). Warmth with mothers and fathers from middle childhood to late adolescence: Within- and between-families comparisons. *Developmental Psychology*, 43(3), 551–563. doi:10.1037/0012-1649.43.3.551.
- Stanger, C., & Lewis, M. (1993). Agreement among parents, teachers, and children on internalizing and externalizing behavior problems. *Journal of Clinical Child Psychology*, 22(1), 107–116. doi:10.1207/s15374424jccp2201_11.
- Strazdins, L., Clements, M. S., Korda, R. J., Broom, D. H., & D'Souza, R. M. (2006). Unsociable work? Nonstandard work schedules, family relationships, and children's well-being. *Journal of Marriage and Family*, 68(2), 394–410. doi:10.1111/j.1741-3737.2006.00260.x.
- Strazdins, L., Shipley, M., Clements, M., Obrien, L. V., & Broom, D. H. (2010). Job quality and inequality: parents' jobs and children's emotional and behavioural difficulties. *Social Science and Medicine*, 70(12), 2052–2060. doi:10.1016/j.socscimed.2010.02.041.
- Tinsley, C. H., Howell, T. M., & Amanatullah, E. T. (2015). Who should bring home the bacon? How deterministic views of gender constrain spousal wage preferences. *Organizational Behavior and Human Decision Processes*, 126, 37–48. doi:10.1016/j.obhdp.2014.09.003.
- Treutler, C. M., & Epkins, C. C. (2003). Are discrepancies among child, mother, and father reports on children's behavior related to parents' psychological symptoms and aspects of parent-child relationships? *Journal of Abnormal Child Psychology*, 31(1), 13–27. doi:10.1023/a:1021765114434.
- Verhulst, F. C., & Akkerhuis, G. W. (1989). Agreement between parents' and teachers' ratings of behavioral/emotional problems of children aged 4–12. *Journal of Child Psychology and Psychiatry*, 30(1), 123–136. doi:10.1111/j.1469-7610.1989.tb00772.x.
- Youngstrom, E., Loeber, R., & Stouthamer-Loeber, M. (2000). Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology*, 68(6), 1038–1050. doi:10.1037/0022-006X.68.6.1038.