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Title

Parenting Stress and the Use of Formal and Informal Child Care: Associations for Fathers and Mothers

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Abstract

We investigated relationships between nonparental care and psychological strains of parenthood. Using data from employed parents of children below 5 years of age (n = 6,886 fathers and mothers) from Waves 4 to 11 of the household panel survey Household, Income and Labour Dynamics in Australia (HILDA), we constructed a parenting stress scale from the average of four items (α = .76) administered in the Self-Completion Questionnaire. We ran panel random-effects regression models testing associations between amount and type of nonparental care and parenting stress, for both mothers and fathers. We distinguished between formal care, informal and family care (mainly grandparents), and mixed care. Results showed that fathers and mothers' parenting stress is positively associated with hours of nonparental care, but that for both genders parenting stress is significantly lower if the care is provided by informal/family carers.

Background

Parenting stress

Parenting is a complicated and demanding role. It involves highly complex tasks, often undertaken under challenging conditions. The ability to perform these tasks and parent successfully is dependent not only on personal and physical resources but also the emotional, mental and physical needs of children (Abidin 1990). Parents are expected to succeed regardless of children's specific needs or challenges, and "[w]hen parents do not handle situations well or when the behaviour of their children is out of control, [they] are seen as having done a poor job, or failed" (Abidin 1990: 298). Having children is stressful for most parents, especially mothers (Buddelmeyer, Hamermesh, and Wooden 2017). However, for some it can become very taxing indeed, creating an associated subjective reaction that has been described as 'parenting stress'; a form of psychological strain whereby a parent perceives that the role demands exceed their capacity to meet them (Halpern-Meekin & Turney 2016; Anthony et al. 2005). Parenting stress may be understood as a form of role strain, which is sometimes on-going or enduring "hardships, challenges and conflicts, or other problems that people come to experience as they engage over time in normal social roles" (Pearlin 1983: 8).

Parenting stress involves multiple components, such as feeling overwhelmed by the responsibilities, feeling trapped and exhausted, finding parenthood more work than pleasure and experiencing strains in the parent-child relationship (Anthony et al. 2005; Abidin 1995). The demands on parents are varied, including meeting children's material needs, such as for food, housing and security, as well as their emotional and psychological needs such as for attention and affection (Deater-Deckard 2004: 5). Parenting stress arises when demands surpass the resources available to meet them (Cooper, McLanahan, Medows & Brooks Gunn

2009; Harmon & Perry 2011). Resources broadly align with parenting demands in that they may be material such as income; psychological, such as feelings of competency; or emotional, such as support from family and friends (Deater-Deckard & Scarr 1996). Stress manifested as adverse psychological reactions can be experienced as negative feelings about the parent themselves, or about their offspring (Deater-Deckard 2004). Although material or emotional resources are important predictors of parenting stress, subjective experience is key. As Deater-Deckard (2004: 7), observes, "[o]ne parent's 'overactive, demanding' child may be another parent's 'energetic, assertive' child".

Parenting stress is associated with poorer developmental outcomes in children (Creasey & Jarvis, 1994; Deater-Deckard 2004); child behaviour problems and strained family relationships (Cmic & Low 2002; Cmic & Acevedo 1995; Cmic, Gaze & Hoffman 2005). Most research into the outcomes for parents has focused on mothers. Parenting stress negatively affects mothers' general well-being and life satisfaction and is associated with greater psychological distress and poorer mental health than other mothers experience (Crnic & Greenberg 1990; Avison, Ali & Walters 2007). Mothers who report high parenting stress can feel less attached to and have more strained relationships with their children, and hold more negative perceptions of them (Harmon & Perry 2011: 176). Parenting stress is also associated with 'less optimal parenting' by mothers (Crnic, Gaze, & Hoffman 2005).

In contrast to the substantial body of research on maternal parenting stress, research on fathers and parenting stress is still, albeit growing, underdeveloped. This is a significant gap in understanding contemporary families and parental welfare, since fathers have become more involved in active childcare (Altintas and Sullivan 2016). Yet research on fathers and parenting stress tends to focus on their role in ameliorating mothers' parenting stress (Harmon & Perry 2011; Nomaguchi et al. 2017). This is likely because, historically, mothers

have been the primary care-givers, and fathers' family role has been largely defined in terms of providing financial security (Harmon & Perry 2011). Their role has been mainly seen in relation to "their ability to procure resources and services that served to shelter mothers from parenting stress" (Harmon & Perry 2011: 176). However, the emergence of the 'new father' ideal (Hook and Wolfe 2012, Pleck and Pleck 1997) has seen fathers more actively engaged in children's lives, in ways which extend beyond financial contributions.

Accordingly, research has looked at how fathers' physical and emotional involvement, rather than simply their material resources, might alleviate maternal parenting stress. Some scholars have found that fathers' emotional support is important for maternal parenting stress (Harmon & Perry 2011; Schindler 2008), but the nature of this relationship is unclear. More robust research finds that it is specifically fathers' 'hands on' engagement with children in tasks that are 'less rewarding' that alleviates maternal parenting stress (Nomaguchi et al. 2017: 1152). Fathers' engaging with their children in shared activities – reading and playing – is also associated with lower levels of maternal parenting stress, as is participation in 'child-related chores', such as caring for children whilst mothers did other things, and ferrying children to and from school or sports activities (Nomaguchi et al. 2017). From a role strain theory perspective, mothers' lower levels of parenting stress may be reduced because some of the caregiving role has been 'delegated' to fathers. Role strain theory posits that role strain can be reduced when social roles or components of them are delegated to someone else (Pearlin 1983).

That when mothers' parenting stress is lessened when their burden of care is reduced through fathers' hands-on participation, shows that role delegation to a co-parent is helpful. That is, sharing role responsibility for every-day parenting with the father of their children is psychologically beneficial to mothers. However, the findings raise questions. Is a family

relationship of crucial importance to the mitigation of parenting stress through role delegation, or is delegating practical tasks to others similarly effective? Teasing out the nuance is important because another way in which the burden of care can be reduced for mothers is the use of nonparental or replacement care of children. Care which substitutes for mothers' time with children is fundamental to maternal employment, so replacement care is an essential service assisting families manage the demands of work and family (Gornick and Meyers 2009, Bergmann 1986). It has become increasingly prevalent as more mothers have entered the paid workforce, and more children are being raised in dual earner households (Bianchi and Milkie 2010). It is usually a commercial arrangement, with employed substitute carers, who perform practical care tasks, but do not share the parenting role as such. Is it nonetheless useful in mitigating parenting stress? If so, does it alleviate both mothers and fathers' parenting stress? As nonparental care becomes more common, it is important to know whether it has a role in ameliorating parents' emotional and psychological pressures. Yet the relationship between nonparental care and parenting stress is currently unknown.

Nonparental care and parental stress

In the latter half of the 20th century there were concerns that outsourcing childcare to non-family members would be detrimental to child development (Belsky 2001, Shonkoff and Phillips 2000, Lamb 1997, Biddulph 2006). There is now broad consensus that nonparental care is not harmful to children, particularly after the first year of life (Leach et al. 2005, Han, Waldfogel, and Brooks-Gunn 2001), although many continue to believe that parental care is best (Baxter et al. 2007). Possibly for this reason, despite anxiety that mothers working would diminish the attention children receive, over the same time period as women's workforce participation has gone up, parental childcare time has risen for both mothers and fathers (Craig, Powell, and Smyth 2014, Altintas and Sullivan 2016). As noted, fathers are becoming

increasingly hands-on, and also, mothers do not trade off childcare and paid work against each other on a one-for-one basis, but seek to maintain their time in both (Craig 2007).

This implies that employed mothers try to ensure children do not miss out on parental attention and nurturing. However, as a corollary they also limit opportunity for adult leisure and downtime (Craig and Brown 2014), and possibly suffer more subjective strain as a result. Also, the use of nonparental care may create more to do, and introduce a stricter timetable to a parent's day. There is some evidence to suggest that mothers who experience more parenting stress are more likely to experience subsequent issues with non-parental care arrangements than with who experience less parenting stress (Pillarz & Ross 2017). Readying children, preparing their lunch, packing spare clothes and ferrying children to and from day care are tasks that must be managed and scheduled. Scheduling pressures could be exacerbated if work hours are long, or if multiple care types are used, such that parents need to make complex arrangements and settle children with a variety of carers. Previous research has found that the use of nonparental care adds to parents' subjective feelings of being rushed or pressed for time, with associations stronger for mothers than for fathers (Craig and Powell 2013).

It is thus possible that nonparental care is an exacerbating, rather than an ameliorating, factor in parental stress. While on the one hand, given that fathers' greater hands-on care mitigates mothers' parenting stress, it could be expected that having nonparental substitutes take over some of the care of children, sharing the time burden and the work involved, would also do so. On the other hand, nonparental care may not allow parents much respite from mental stress. Indeed, the scheduling demands and cost of day care may add to parental worries. Some parents may have concerns about their children's behaviour or welfare while they are with delegated carers. These factors could mean that the practical assistance nonparental care

offers is not accompanied by a diminution of subjective stress for parents. Father involvement may relieve mothers' stress precisely because it involves family role delegation, which nonparental care does not.

However, the use of nonparental care is often unstable and unpredictable which has an impact upon families lives. According to Pillarz & Ros (2017), parenting stress may also arise from instability in non-parental care arrangements in three ways: (1) changes in care arrangements require a reconfiguration of family and household routines, which need to be reconciled with work and family demands; (2) the use of multiple providers of care has flow on effects in arranging schedules and transportation; and (3) the use of 'back-up' providers to cover irregularities in families' care routines is disruptive and may add to stress. However, Pillarz & Ross' (2017) empirical work suggests that on average, the use of unstable child care arrangements or multiple providers was not associated with greater parenting stress in mothers. They hypothesise that these results indicate that changes in nonparental care of children was used by parents to assist with the reconciliation of work and family demands to manage their own parenting stress.

Beyond the use of multiple care providers, what is unknown is whether the use of different arrangements or care packages is associated with more or less parenting stress comparatively. Informal arrangements with family or friends are likely to be more flexible and less rigidly scheduled than childcare centres. Perhaps more importantly, leaving children in the care of someone parents know well may give more psychological comfort than formal day care arrangements. This may be particularly true if the substitute carers are close relatives, such as a parent's own mother or father. Parental childcare is complex mix of supervisory responsibility, practical tasks and emotional ties (Folbre and Yoon 2007). In knowing the family intimately and having an emotional connection to the children, grandparents are often

thought to provide the 'next best thing' to parental care (Wheelock and Jones 2002, Craig and Jenkins 2015). Grandparent care is likely to be carried out in ways consistent with the parents' own values and practices. Thus, delegation to family members including grandparents may be more akin to role sharing between spouses than other forms of nonparental care, with concomitantly higher potential to relieve parenting stress.

Research focus

Nonparental care holds out the possibility of ameliorating the psychological strains of parenthood. We investigate whether it does so, making a three-fold contribution to the literature. One, we conduct the first research directly investigating the relationship between the use of nonparental care and parenting stress. Two, we explore whether relationships between nonparental care and parenting stress differ by the type of care used. Three, we examine relationships between the use and type of nonparental care and parenting stress for fathers, as well as for mothers.

Our enquiry is conducted using high quality detailed data from an Australian longitudinal panel study. Before describing the data and methodology, we give an overview of the Australian context in relation to work, family, child-raising and nonparental childcare.

Institutional context – nonparental care in Australia

Australia is usually grouped with the USA, the UK, Canada, and New Zealand as a 'liberal' welfare state, in which work–family reconciliation and raising children are seen as largely private, not government, responsibilities (Gornick and Meyers 2009, Orloff 2009, Lewis 2009). However, Australia has distinctive features. Historically tax and social policies have favoured male breadwinner or one-and-a-half earner families (Apps 2004). The threat of populating ageing and the associated decline in economic growth have led recent

governments to focus rhetorically on increasing productivity through greater female employment (Intergenerational Report 2015). Nonetheless women's workforce participation is low compared to other western nations (OECD 2016). Large numbers of Australian mothers opt out of paid work when children are young, with withdrawal longer term than in many other countries (Apps 2004), and a particular feature of the female labour force is high levels of part-time work (Charlesworth et al. 2011). At the same time, workplace demands are high, with average fulltime hours long. More than half of fulltime employees devote over 50 hours a week to paid work (Pocock, Skinner, and Ichii 2009). In combination these patterns mean that in most Australian families with children, fathers work long hours and mothers, even if employed, manage most of the childcare and family duties (Craig, Powell, and Smyth 2014). There has been some policy change, with the first national paid parental leave scheme introduced in 2011. It allows 14 weeks of leave at minimum wage for mothers, with an extra allocation of two weeks specifically earmarked for 'dads and partners' (Brown and Lin 2012). Also, gender convergence is fostered by economic conditions including very high housing costs, which mean that even in the absence of supportive work-family measures, more families now rely on both partners' earnings to make ends meet (Beer, Kearins, and Pieters 2007).

Notwithstanding, most Australians believe that in the early years parental care is best for children (Baxter et al. 2007) and since the mid-1980s, attitudes towards whether women in paid employment can be good mothers have become more conservative (Van Egmond et al. 2010). Australian attitudes have at the same time become more supportive of women's workforce participation and of a more equal distribution of household labour and childcare between men and women. Support for the male-breadwinner household model has declined and support for access to satisfactory childcare facilities that enables women to work has increased significantly (Van Egmond et al. 2010).

Contemporaneous with these attitudinal shifts has been an expansion of formal early education and childcare, although demand continues to exceed supply in many areas and costs are high (Adamson and Brennan 2014). Australian childcare varies by type, covering formal day care and informal arrangements, and package, which is a household's usage pattern, for example formal-only or a mix of informal and formal childcare (Baxter et al. 2007; Brady & Perales 2016). Formal arrangements include before and after school care, long day care, family day care, preschool or kindergarten and occasional care. It is subject to government regulation and licensing standards, and attracts modest government subsidy. Long day care is provided at centres which must have a ratio of one tertiary-qualified staff member to four children and is usually available for up to eight hours per weekday. Family day care is provided by registered carers in the carers' home. Kindergarten and preschool are generally state-run and usually offered to children in the year or two before they start primary school. They commonly provide short half-day services, and have an educational focus. Many long day care centres also provide preschool programs (Craig and Powell 2013). In-home care by nannies is rare (Adamson 2017). Informal care is provided by friends and family and is also unregulated. Due to the patchy availability and high cost of formal care (Adamson and Brennan 2014), many families rely on informal carers, either solely or to plug service gaps (Craig and Jenkins 2015).

In Australia, the use of both informal and formal care has increased over time (Wilkins 2016), with some variation by type and packages, and across family types. By 2014, around 30 percent of single and partnered mothers used day care centres and a further 20 percent used family day care (Brady & Perales 2016: 331). Around 40 percent of mothers rely on relatives to care for their pre-school aged children. Relative-care is most frequently undertaken by grandmothers, especially when children are very young (Baxter, 2013; Jenkins, 2010). Grandparents have always played some part in the rearing of children

emotionally, physically and materially, but grandparenting has become much more active in recent decades (Arber and Timonen 2012). In most advanced economies, grandparents are increasingly a source of regular childcare, supporting parents, particularly mothers, participate in the labour market (Aassve, Arpino, & Goisis, 2012; Geurts, Tilburg, Poortman, & Dykstra, 2014; Posdas & Vidal-Fernandez, 2012). This is reflected in Australia, where around 40 percent of grandparents look after their grandchildren at least once a week (Baxter 2016). Payment is rarely involved (Craig and Jenkins 2015).

Children attending nonparental care are more likely to speak English at home and as weekly family income increases, so does the use of nonparental care. This is not surprising, as to the extent it is used for employment, higher care usage is likely related to family income (Blaxland, Mullan, and Craig 2009, ABS 2006).

Expectations

Against this contextual backdrop, we expect that increasing hours of nonparental care will be positively associated with parenting stress, but that associations will be moderated by care type. Given differences in time flexibility, cost and closeness of relationship, we expect that family-only care and mixed care will be negatively associated with parenting stress, whereas formal-only will be positively associated with parenting stress. Because Australian women retain more responsibility for managing the household and family arrangements than men (Craig, Powell, and Smyth 2014), we expect to find gender differences in associations between parenting stress and both hours and types of parental care.

Data

We use data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA is a large household panel survey with a specific focus on three key

research areas: family and household dynamics, income and welfare dynamics, and labour dynamics (Wooden & Watson 2001). The survey commenced in 2001 and there are currently 15 waves of data available. The reference population for the initial wave of the HILDA sample was all members in private dwellings across Australia. Using a multi-stage sampling approach, households were selected from a sample of 488 Census Collection Districts (CDs) comprising of 200-250 households. Within each CD, a sample of 22 to 34 dwellings was selected. From each dwelling (physical building), up to three households were selected; if four or more households occupied the one dwelling, all households were numerated and a random sample of three households was selected (see Watson & Wooden 2002 for further specifics about sampling methodology). From the sampling frame, 11,693 households were identified and interviews with 7682 responding households were completed resulting in 66 per cent household response rate for Wave 1. From 7682 responding households, 13,969 responding persons over the age of 15 were interviewed. The overall Wave 1 sampling frame is representative of Australian households, but there are some issues of 'representativeness' regarding specific populations: women are over-represented, but migrants of non-English speaking background, Indigenous Australians and unmarried couples are all under-represented (Summerfield et al. 2014). Data is collected at both a household- and individual-level using a range of survey instruments.

The analytic sample used in this research was constructed using data from the Combined Person Files from waves 1 to 15 to create a person-period data set so that each respondent has multiple records–one for each wave in which the respondent is observed. The analytic sample was restricted to all responding persons aged 15 years who participated in waves 4 to 11 because there were some inconsistencies in the way information about child care types was collected between waves 1 and 3, including information about grandparent care. The analytic sample was further restricted to only include men and women with children under the age of

five who were both in employment and in a relationship, either married or cohabiting. HILDA only collects information about childcare arrangements for preschool-aged children from households in which both parents are employed. The analytic sample was unbalanced to include respondents who enter and exit over the course of the survey. The final sample comprises 3,443 men and 3,443 women. Sample characteristics are presented in Table 1.

Measures

Parenting stress was constructed from the average of four items ($\alpha = .76$) administered in the Self-Completion Questionnaire. Respondents were asked to indicate how strongly they agreed or disagreed with statements in relation to children (<17 years) for whom they had parenting responsibility: (1) "Being a parent is harder than I thought"; (2) "I often feel tired, worn out or exhausted by meeting the needs of my children"; (3) "I feel trapped by my responsibilities being a parent"; and (4) "Parenting is much more work than pleasure". Each measure has the same response categories across a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). These measures were adopted from the Panel Study of Income Dynamics Child Development Supplement and the derived scale is an established approach to modelling parenting stress (Nomaguchi et al. 2017).

Hours of nonparental care was derived by summarising the number of hours respondents reported their child(ren) spend in all types of care while they and their partner work in an average week, specifically: (a) the child's brother or sister; (b) child's grandparent who lives with us; (c) child's grandparent who lives elsewhere; (d) other relative who lives with us; (e) other relative who lives elsewhere; (f) a friend or neighbour coming to our home; (g) a friend or neighbour in their home; (h) a paid sitter or nanny; (i) family day care; (j) long day centre at workplace; (k) private or community long day care centre; (l) kindergarten or preschool; and (m) other

Child care package was constructed by grouping child care types into a set of five categories: (1) care undertaken by me or partner only; (2) family care (3) formal care only; and (4) mixed care. Family care includes child care provided by the child's grandparents, brother or sister, relatives, friends and neighbours. Formal care is care provided by a paid sitter or nanny, family day care, long day care, private or community long day care or kindergarten/preschool. Mixed care is a combination of care provided by grandparents, informal and formal care providers.

Several control variables that may have an independent relationship with parenting stress were included in the models. Parental care hours and partner's parent care hours were derived by the number of hours and minutes respondents reported spent playing with their children, including helping them with personal care, teaching, coaching or actively supervising them, or getting them to child care, school and other activities. Household labour force status was constructed using both respondent and their partner's labour force status. For the purposes of analysis, the response categories are: 1= "2.0 – Both respondent and partner employed full-time" (reference category); 2 = "1.5 – Respondent employed full-time and partner employed part-time"; and 3 = "1.0 – Both respondent and partner employed part-time". Tertiary qualifications were derived from respondent's highest qualification (1 = obtained a Bachelor's degree or above). Marital status was a dichotomous variable indicating 1 = Married and 2 = Cohabiting. Subjective time pressure was derived from the question: "how often do you feel rushed or pressed for time?". Responses ranged from 1 = almost always to 5 = never. Measures for overall general health and mental health derived from the SF-36 are included. Both measures are on a scale that ranges from 0 – 100 with 0 indicating poor

general and mental health. Due to space constraints and because they are the primary focus of other papers within our research program, we do not discuss the control variables in the text.

Analytic strategy

To test associations between nonparental care and parenting stress, we estimate panel random-effects regression models. Random-effects models are applicable for using panel data such as the HILDA data because they allow for estimation of between-individual differences using individual-specific intercepts that account for unobserved heterogeneity, which may affect parenting stress. In this research, parenting stress is modelled as a function of hours of nonparental care, child care package and other socio-economic factors. The full model is represented notationally as:

$$PS_{it} = \alpha + C_{it}\beta_1 + P_{it}\beta_2 + X_{it}\beta_3 + C_{it}\beta_4 + v_{it} + \varepsilon_{it}$$

where subscripts I and t denote individual and time, respectively; PS represents parenting stress; C is a continuous variable that represents hours of nonparental care; P is a vector of dichotomous variables representing childcare packages; X is a vector of control variables, including hours of care for both respondent and partner, household labour force status, household income logged, education, marital status, age, subjective time pressure and ratings of general and mental health from the SF-36; v is the person-specific intercept capturing the random effect; e is the error term; and $\beta_{1\ to}\ \beta_4$ are the coefficients for the independent variables that will be estimated.

To explore which factors contribute to any association between use and/or type of nonparental care and parenting stress, this research estimates a set of models which

sequentially estimate key explanatory variables. All models are stratified by sex. In the first set of models, a lone continuous variable estimates the relationship between hours of nonparental care and parenting stress for mothers and fathers. In the second set of models, a set of dichotomous variables measuring child care packages is added. This estimates the relationship between child care packages and parenting stress. In the third set of models, controls are included. In supplementary analyses, we present full models of the subcomponents of parenting stress.

Results

The results from the panel random-effect regression models are presented in Table 2. The outcome variable is parenting stress and results are stratified by sex to show associations with the explanatory variables and statistical controls for both fathers and mothers.

Models 1A (fathers) and 1B (mothers) in Table 2 present the estimated coefficients for hours of nonparental care without statistical controls. The coefficients give the raw change in parenting stress for a 1-unit increase in hours of nonparental care. These models indicate that both mothers and fathers experience greater parenting stress as hours of non-parental care go up. The increase is greater for fathers than mothers but this gender difference is not statistically significant. Although this result is consistent with our expectation that more hours of nonparental care would be associated with higher levels of parental stress for both men and women, the R^2 statistic for these models is 0.01, indicating that hours of nonparental care explain very little of the sample variance in parenting stress for either mothers or fathers.

In Models 2A (fathers) and 2B (mothers), the relationship between the use of different child care packages and parenting stress was estimated, together with hours of nonparental care. Family-only care was the only child care package that was significantly associated with

parenting stress. The association was negative. The magnitude of the family-only coefficient for mothers was larger than for fathers, suggesting that the use of grandparent-only care is more effective in reducing parenting stress for mothers than fathers. This difference between mothers and fathers is statistically significant. The R^2 statistic for these models is 0.01, indicating that the addition of child care packages explained very little of the sample variance in parenting stress.

These results partially support our expectations that different child care packages would be associated with parenting stress. We expected that mothers and fathers who use formal-only would have higher levels of parenting stress than parents who themselves or their partner exclusively provide care or use informal care, including family care because of the relative inflexibility of more formal modes of child care. However, although the formaly-only coefficient was negatively associated with parenting stress for parents of both sexes, family-only care was the lone significant coefficient. In relation to mixed care, it may be that family members and other relatives are sharing pick up and drop duties with parents, mitigating the higher parental stress we expected.

In the third set of models, 3A and 3B, the coefficients for statistical controls were estimated alongside hours of nonparental care and child care packages. The addition of controls substantially improved the predictive power of the models, such that they explained around 14 percent (R^2 0.14) of the sample variation in parenting stress for fathers and 20 percent (R^2 0.20) of the sample variation in parenting stress for mothers. With the inclusion of statistical controls, there was a slight increase in the coefficient for hours of nonparental care for fathers. The relationship between child care packages and parenting stress remained the same: family-only care is the only package significantly associated with parenting stress. The magnitude of the coefficients for both fathers and mothers was, however, smaller. In the final

model, the magnitude of the coefficient for both fathers and mothers is the same (0.21, p. <05). This indicates that the difference between fathers and mothers use of family-only care found in the previous model was partially due to the differences in mothers' socio-demographic characteristics.

Discussion and conclusion

This paper drew on longitudinal data over a 15-year time span from employed couples with children under five years old, to investigate links between nonparental care and parenting stress. Parenthood is a demanding role, with success highly dependent on parents' personal and material resources and the availability of adequate support. For working fathers and mothers, especially in dual earner couples, managing family care and paid work commitments is complex and challenging. Nonparental substitute childcare is one way in which parents can navigate these complexities. Here we investigated its relationship to parenting stress, the psychological strain arising when role demands exceed parents' perceptions that they have the capacity to meet them (Halpern-Meekin & Turney 2016; Anthony et al. 2005). Following Nomaguchi (2017), we used a scale measure composed of several elements capturing aspects of how parents feel about the role and their efficacy. We were interested in the effect of care hours and of care type, and whether fathers and mothers parenting stress was affected similarly or differently by these two dimensions of nonparental care.

We found, first, that more hours of nonparental care was not associated with lower levels of parenting stress for fathers or mothers, but in fact predicts it will be higher. This was not unexpected, as in some respects using nonparental care adds to parental role demand. Prior research has found a positive relationship between nonparental child care and subjective time pressure (feeling rushed or pressed for time), likely related to associated additional tasks such

as readying and transporting children to day care, meeting tight deadlines if children need to arrive and be collected at certain times and the need to manage an employer/employee relationship (Craig and Powell 2013). However, associations between nonparental care and being rushed were particularly strong for women, and our results for parenting stress were surprisingly similar for both genders. This may mean fathers are sharing more responsibility for the tasks described above, or that that the combined demands on both partners contribute to subjective role strain for each. A further potential explanation was that greater hours of nonparental care are used as couples supply more labour to the market, which also exacerbates some aspects of parenting stress (Authors, forthcoming). However, the positive association pertained net of household employment configuration, suggesting that this is not the entire reason.

Although the extra tasks and scheduling pressure generated by substitute care may be part of the explanation, the finding that it exacerbates parenting stress is interesting given that previous research found that when fathers undertook more physical care of their children or participated in 'child-related chores', mothers experienced less parenting stress (Nomaguchi et al. 2017). Our results show that replacement care, which presumably involves substitute carers also performing these practical tasks in lieu of parents doing so, does not function like this. So why the difference? It seems plausible that, as implied by Moen & Dempster-Mcalin (1987) role delegation is helpful in mitigating role strain, and that sharing care with a fellow parent constitutes role delegation but outsourcing does not. That is, a partner can take over part of the parenting role, relieving the other of sole responsibility, but substitute care does not relieve parents of role responsibility in the same way. Thus, outsourcing childcare might offer practical help, but not emotional relief and support sufficient to relieve parents of subjective stress and feelings of role overload. Our findings suggest that while nonparental

care may ensure children are supervised, and relieve parents of some child-related chores, it is not psychologically beneficial as is the active input of a co-parent. An implication is that there is something uniquely supportive about practical help that involves being joined in the project of parenting by someone with a close relationship to the child.

Supporting this interpretation were our findings on the relationship between care packages and parenting stress. The use of family-only care was associated with significantly lower levels of parenting stress for both fathers and mothers. This stood in contrast to the other child care types, and was net of controls including employment status, and both parental and nonparental care hours. That is, of all the care packages, family-only care was the only one we found to mediate the relationship between nonparental care hours and parenting stress. Furthermore, it did so for both genders. It is known that family care arrangements, especially family-care has advantages over other child care packages (Craig & Jenkins 2015). Family care is more flexible than formal care providers, they are more accommodating for parents with non-standard work schedules or when children are sick, and using their help is generally not a commercial transaction (Goodfellow & Laverty, 2003; Gray, 2005; Qu, 2003). Our findings take us further than prior research in showing for the first time that family care also yields a demonstrable psychological benefit to parents. It is associated with less parenting stress. We interpret this as indicating that drawing on one's own parents is, like mothers enlisting fathers' involvement, more than task delegation only. In a way akin to co-parenting, it involves sharing not only practical, but also emotional aspects of the role, and our results suggest that this combination makes it uniquely valuable to parental wellbeing.

Including fathers in this study of parenting stress was timely given their growing family involvement and the rise in dual earner households, and yielded the further new finding that

the stress mitigation associated with grandparent care was felt by parents of both genders. It was again rather unexpected to find that family care was as strongly associated with fathers' as with mothers' parenting stress, however, given that in Australia women still retain most responsibility for managing the home, even if they are employed (Craig, Powell, and Smyth 2014). Notwithstanding this prevalent gender division of labour, fathers also experience parenting stress, and family care was associated with lower levels of parenting stress amongst fathers. The implication is that assistance from extended family alleviates parenting stress for both partners in dual earner households, regardless of who does most care.

The findings may also reflect the challenges encountered by parents using other types of child care. Formal care is the most common child care package used by Australian parents, yet there are numerous issues including quality, cost and fit. Although there have been efforts to reduce costs in recent years, expense remains a barrier for families, particularly those with multiple children (Brady 2016). Formal care does not meet the needs of all family types, including those with parents working non-standard schedules such as nights and weekends (Breunig et al., 2011; Nowak, Naude, & Thomas, 2013). A place in formal day care is not always available, especially in a convenient location (Adamson and Brennan 2014). The need to transport children, especially infants under a year old, can be taxing and parents may prefer they are cared for in their own home (Adamson 2017). Some parents worry that care centres do not cater for the particular needs of their children (Gray, Baxter, and Alexander 2008). Our results suggest that within this context, although formal care is an essential service increasingly used to assist working families manage their practical care responsibilities, it does not offer parents sufficient psychological relief and emotional support to mitigate parenting stress.

The results of this study have policy implications. In Australia, institutional support (such as parental leave, flexible hours and affordable childcare) for combining work and family is thin (Pocock 2003). The drawbacks of Australian formal care noted above are reinforced by cultural attitudes towards maternal employment and a normative preference that mothers care for young children (van Egmond et al. 2015). However, the lack of work-family support is increasingly at odds with current government rhetoric, which promotes greater workforce participation amongst women as a solution to the forthcoming challenges of population ageing and declining productivity (IGR 2015). The pitch is to both ends of the working age spectrum, with young mothers being encouraged to return to work more quickly after childbirth, and matured-aged women to work longer as the old age pension age is raised and they have insufficient to live on in retirement (IGR 2015). The two may be incompatible, however, which presents a conundrum for policy-makers, parents and grandparents.

Our results give new insight as to why in Australia many older women step in to help with childcare so that their adult children can work, rather than being employed themselves (Hamilton and Jenkins 2016). That family care is an effective way of reducing parenting stress for mothers and fathers, will be subjectively evident to families that choose such arrangements. Of course, grandparent care is not available for all, and is not possible unless grandparents have the time and financial security to provide it. If both younger and older women need to devote increasingly more time to market work, pressures to use nonfamilial care will rise. In encouraging this outcome, it is incumbent upon governments to acknowledge the stresses involved, and ensure that families can access affordable, conveniently located care that fits their needs and values, and that policy regarding labour force participation is underpinned by a supportive and flexible high-quality care infrastructure. Countries such as the Nordic social democracies offer more such support, and

there the use of nonparental care is higher, the intensity of grandparent care is lower, and the proportion of women in the workforce is larger (Glaser et al. 2013, OECD 2016). Future cross-national research could investigate whether the connections we have found between nonparental care and parenting stress are country specific, and differ across policy context according to the quality, cost and availability of the nonfamilial care infrastructure.

Table 1 Descriptive Statistics

	Men		Women		Couple	
	M	SD	M	SD	M	SD
Nonparental care hours					22.64	0.29
Childcare Packages						
Me/Partner-only					4.9	
Grandparents-only					6.7	
Informal-only					4.5	
Formal-only					38.1	
Mixed					42.8	
Parental care hours	16.5	0.20	35.7	0.37		
Partner's care hours	35.7	0.37	16.	0.20		
Household Labour Force Status						
2.0 (Full-time + Full-time)					25.6	
1.5 (Full-time + Part-time)					70.3	
1.0 (Part-time + Part-time)					4.1	
Tertiary Qualifications	41.6		58.3			
Married					83.3	
Age	36.1	0.10	34.1	0.04		
Born outside of Australia	50.5		40.5			
Subjective Time Pressure	2.43	0.01	2.14	0.01		
SF-36 – General Health	71.9	0.28	73.7	0.72		
SF-46 – Mental Health	76.5	0.24	75.3	0.23		

	1A FATHERS		1B MOTHERS		2A FATHERS		2B MOTHERS		3A FATHERS		3B MOTHERS	
Variable	B	S.E.	B	S.E.	B	S.E.	B	S.E	B	S.E.	B	S.E
Nonparental care hours	0.03***	0.01	0.02***	0.01	0.03***	0.01	0.03***	0.01	0.04***	0.01	0.02*	0.01
Childcare Packages (*Ref: Me/Partner-only)*												
Family-only care					-0.17**	0.07	-0.21**	0.08	-0.15**	0.08	-0.19**	0.08
Formal-only					-0.07	0.07	-0.12	0.07	-0.10	0.07	-0.12	0.08
Mixed					-0.06	0.07	-0.05	0.07	-0.07	0.07	-0.09	0.08
CONTROLS												
Parental care hours									0.01	0.01	0.01	0.01
Partner's care hours									0.01*	0.01	0.03***	0.01
Household Labour Force (2.0)												
1.5 (Full-time + Part-time)									0.01	0.04	0.11***	0.04
1.0 (Part-time + Part-time)									0.04	0.09	0.02	0.09
Tertiary Qualifications									0.14***	0.05	0.13***	0.05
Household Income Logged									-0.05	0.03	-0.07**	0.03
Married									0.08	0.06	-0.16**	0.06
Age									0.01	0.00	0.01**	0.00
Subjective Time Pressure									-0.15***	0.02	-0.23***	0.02
SF-36 – General Health									-0.07***	0.01	-0.06***	0.01
SF-46 – Mental Health									-0.11***	0.01	-0.16***	0.01
N (observations)	3,343		3,346		3,343		3,346		3,343		3,346	
N (groups)	1,272		1,246		1,272		1,246		1,272		1,246	
R2	0.1		0.1		0.1		0.1		0.14		0.20	
Prob (F)	0.00		0.00		0.00		0.00		0.00		0.00	

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