Received: 14 May 2020 | Revised: 29 August 2021 | Accepted: 3 September 2021

DOI: 10.1111/joes.12467

Original Article

JOURNAL OF ECONOMIC SURVEYS WILEY

Literature review on the impact of welfare policy design on children and youth

Barbara Broadway[1] | **Tessa LoRiggio**[2] | **Chris Ryan**[1] | **Anna Zhu**[2]

[1] Melbourne Institute of Applied Economic and Social Research, Carlton, Australia

[2] Royal Melbourne Institute of Technology, Melbourne, Australia

Correspondence
Anna Zhu, Royal Melbourne Institute of Technology, Melbourne, Australia.
Email: anna.zhu@rmit.edu.au

Abstract

We review the empirical literature on the causal effects of welfare-to-work policies on the employment of low-income parents and the intergenerational impacts on their children. We focus on welfare policies that change benefit levels, activity requirements, time limits, and in-work benefits. These policies may affect children through several mechanisms, including changes in family income, time spent with parents, and attitudes towards work or welfare. To unpack these mechanisms and understand the net effects of these policies, we assess how the impact on children varies across outcomes, home environments and institutional settings. Overall, the literature shows that income tax credits are an attractive policy, simultaneously increasing employment and improving child development outcomes. In contrast, other policies that boost employment either have no or negative impacts on child development.

KEYWORDS

intergenerational impacts, literature review, welfare policy

1 | INTRODUCTION

Welfare policies in Organization for Economic Co-operation and Development (OECD) countries aim to balance the goals of providing economic security and promoting personal responsibility among low-income parents. Over the last few decades, and particularly in the liberal democracies such as the United States, the United Kingdom and Australia, policy-makers have placed greater emphasis on the social safety net primarily as a set of tools to help parents find and keep employment. Examples of policy reforms include: making cash assistance conditional on activity requirements, increasing in-work benefits, imposing time limits on cash assistance, and reducing the level of and access to unconditional cash assistance. The reduced focus of welfare policy in providing unconditional safety-net benefits has raised questions not only about the effects on parent's economic and social well-being but also the potential impacts on the children of welfare recipients.

A range of factors associated with welfare policy design can potentially affect children's development, including changes in family income, changes in the amount of time their parents have available to spend with them, and the formation of attitudes towards work or welfare. Specifically, welfare payments for parents directly affect family income, which determines parents' opportunity to make financial investments in their children's development. The design of welfare payments can also affect the level of parental employment, which not only affects the time parents spend with their children and the amount of income available to spend on children but can also shape children's attitudes through parental role model effects. This means any policy promoting employment among parents may have an ambiguous impact on children through reduced exposure to parental time (substitution effect) and increased household income (income effect).

This literature review examines the existing international research on the causal impacts of welfare policy design on the employment behavior of low-income parents and the well-being of their children. It will focus on the main design changes implemented by liberal democracies over the last four decades, including i) modifications to the level of welfare benefits; ii) greater activity requirements; iii) stricter time limits; and iv) expansions to in-work benefits.

This literature review draws some broad conclusions about which policy designs tend to improve adult outcomes and which promote child development and well-being. The cost-effectiveness of each policy design is beyond the scope of this review. We will examine the intergenerational impact of welfare policy design by reviewing studies that estimate how child development changed in the event of a welfare reform. Studying the impact of a policy change or reform can help to isolate the causal impact of the program from the underlying factors that enrol a family into a program, such as low income, disability or the like.

For the parents targeted by the welfare reforms, we find that in-work benefits (such as the Earned Income Tax Credit [EITC] in the US) and activity requirements (such as mandatory participation in job search or training) are most effective in increasing welfare recipients' employment and decreasing their program participation. Stricter time limits and a general decrease to payment levels appear to be less effective.

For the children of affected families, activity requirements are more likely to be harmful, possibly because they reduce parental time without increasing family income. Expansion of in-work benefits, in contrast, have been shown to have positive effects on a large range of child outcomes, including their health, cognitive and social behavior. This latter type of reform tends to induce better outcomes compared to activity requirements because additional income is provided to the family alongside employment. This appears to benefit younger children especially when increased

family income is used to access better early education and care programs. Childcare availability and affordability are core issues to be considered by policymakers when designing welfare policies.

2 | THEORETICAL FRAMEWORK

Early models of child outcomes and how they are shaped within families started with Becker's *Treatise on the Family* (1981), drawing on his seminal paper *A Theory of the Allocation of Time* (1965). Their view of families as "little factories" is firmly established in the social sciences: families use time and goods purchased in the market to produce commodities that generate utility for their members. Under budget constraints that describe the total resources available to them, they must decide how much of their time each family member spends on market work (thereby generating income to be used on market goods), and how much time each member spends on other productive activities in the home. This framework allows for a great variety of models, used to explain a great variety of families' choices regarding the production of various commodities of interest under different circumstances (see Bergstrom, 1997; for a broad overview).

Child characteristics, such as schooling outcomes, health or social skills, can be interpreted as one such commodity (see Foster, 2002; for a discussion). Within this framework, one can specify a very broad range of models to describe families' decision-making; for illustration purposes we re-print a slightly modified version of James-Burdumy's (2005) simple model for a one-parent-one-child family[1] with one generic child outcome "development", that we can think of as schooling, health, cognitive, or non-cognitive skills, or social or behavioral outcomes. The model consists of five elements:

1. Mother's utility function: $U(D, G_M, L)$
2. Production function: $D = D(G_C,\ C_{NM} \cdot Q_{NM},\ C_M \cdot Q_M(H,\ L,\ X))$
3. Time constraint mother: $T_M = H + L + C_M$
4. Time constraint child: $T_c = C_M + C_{NM}$
5. Budget constraint: $w \cdot H + A = P_{NM} \cdot C_{NM} + P_C \cdot G_C + P_M \cdot G_M$

$$\Leftrightarrow w \cdot T_M + A = P_{NM} \cdot C_{NM} + P_C \cdot G_C + P_M \cdot G_M + w \cdot L + w \cdot C_M$$

The mother maximises her utility (1), which depends on her child's development D, market goods consumed by the mother G_M, and her leisure time L. According to equation (2), child development is produced by market goods consumed by the child G_C (e.g., nutrition, books, or private tutoring), time spent in non-maternal care (C_{NM}) and its quality Q_{NM}, and time spent in maternal care C_M and its quality Q_M. We assume that the quality of maternal care depends on the mother's characteristics X and her working hours H and leisure time L. This could reflect, for example, that stress and tiredness might impact the way a mother interacts with her child if her working hours are high, or that adult interaction at work or a sense of pride in her work positively affect mother-child-interaction if working hours are greater than zero.

The time constraints (3) and (4) state that the mother can split all her available time between leisure L, working hours H, and time spent caring for her child C_M. The child must be cared for at all times, so time spent in maternal care and non-maternal care, C_M and C_{NM}, add up to the child's total time. Lastly, the budget constraint (5) demands that total resources (working hours H times wage rate w, and non-labor income A) must equal all goods consumed by mother and child,

purchased at their respective market prices P_G and P_M, as well as non-maternal care purchased at price P_{NM}.

According to this model, child development depends on two inputs: family income and time investments. Family income, as well as mothers' time investment, is closely linked to her labor supply decision: the more hours she works, the more goods she can provide for the child. However, on the other hand, her choice of working hours also i) requires her to decrease her leisure time and/or time spent caring for her child and ii) affects the quality of care provided by her during the remainder of the time.

This theoretical framework helps us to think about potential economic drivers of child development in a formalized way. Many modifications are possible in order to incorporate further aspects into the family's decision making. For example, in a larger family, there may be an underlying assumption that decision-making occurred by the family as one unit, or as the result of cooperative or non-cooperative bargaining between its members (especially between mother and father). Different elements can enter the family utility function (such as children's schooling, health, or non-cognitive skills), and the utility of one child's development could depend on that of another (if parents want their children to start out with similar opportunities for their adult lives). It is possible for mothers' working hours to enter the production function directly, to represent that role modeling could affect outcomes. And the generic input "time" can be split into different elements, allowing us to dive deeper into the value of specific activities or parenting styles. In the more recent literature, much attention has been paid to the timing of investments; Cunha and Heckman (2007) developed a dynamic model of skill formation that distinguishes several periods of childhood, and in which early investments can affect the productivity of later investments.

The framework's flexibility, however, also limits its usefulness: where there are near unlimited possibilities to define inputs, outputs, and the function linking both, any predictions made remain ambiguous. Empirical investigation of a specific input-output relationship is hence crucial—and the literature that falls under the broad umbrella of the presented framework is vast, encompassing studies that investigate the effect of exogenous income shocks on health just as much as those that study the effect of parents' reading to children on school readiness. Reviewing the entire body of research on the determinants of child development in the social sciences is much beyond the scope of this, and possibly any, literature review.

Instead, we limit the above framework's use for this article to explain why and how we expect, ex-ante, that welfare policy design could potentially affect the developmental outcomes of welfare recipients' children. Again, it turns out that the model does not lead to unambiguous predictions and empirical investigation of specific design features on specific outcomes is crucial. The bulk of the article will then be devoted to reviewing this narrower empirical literature on the effect of welfare policy design.

3 | THEORETICAL EFFECTS OF WELFARE REFORM

What can we conclude from the theoretical framework about the likely effects of welfare reform on child development? The short answer is: not much. The major conclusion to be drawn is, as we will show below, that effects of any reform to welfare policy design are expected to be very heterogeneous, depending crucially on employment status in the absence of reform, but also on a range of other family characteristics. The long answer is set out in the remainder of this section.

In undertaking such analysis, social scientists typically take the utility function, production function and time constraints as given. It is equation (5) above, the budget constraint, where

policymakers can influence parental decision-making most directly, and where welfare reform might have an impact on child outcomes.

The solution to the set of equations involves a set of decisions by the household about, among other things, the mother's hours of work and of childcare and expenditure of goods for the child, all of which affect the level of the child's development. Limiting our consideration to just households on welfare, there will be households in this framework where mothers choose to work positive hours (Group 1) and those where they do not work (Group 2). The set of welfare reforms we study here will affect those in these groups differently in ways we need to distinguish and keep in mind when interpreting the results of empirical studies (Bitler et al., 2008).

There are policy approaches specifically and directly aimed at improving child development, whereas others are indirect approaches—that in the first instance are aimed at reducing household poverty and welfare dependency. Examples of direct policy approaches include in-kind benefits targeted at families with children or greater accessibility to high-quality childcare. In contrast, indirect policies include measures to promote parental employment. While we briefly discuss some of the direct policy approaches, our focus here is to review four key design elements: benefit levels, participation requirements, time limits, and tax credits. These four policies constitute the main reforms to the welfare system in many of the OECD countries over the last four decades, mostly involving changes to the design of existing policies. Broadly speaking, all of these four policies fall into a version of the welfare state that is focused on promoting employment rather than one that is focused on shock relief for everyone through insurance. We can further categorize these policies into the two broad groups of those that (1) provide incentives to parents (tax credits) or those that (2) impose conditionalities on them (benefit levels, participation requirements, and time limits). One of our aims is to compare the relative benefits and drawbacks of these two broad policy categorizations.

3.1 | Changes in the generosity of the welfare system

An unconditional cash transfer increases non-labor income A in equation (5). A welfare reform that reduces the payment involves a decrease in A. For those mothers who would have worked in the absence of reform (Group 1), we would expect a decrease to the level of welfare benefits to induce some increase in maternal working hours, that may or may not be sufficient for the family to reach the same total income as before (but with more hours worked), and with an ambiguous effect on child development. Essentially, a priori, it is unclear whether the mother will decrease her own consumption of market goods (which would leave the child's development unchanged), her leisure time (the effect of which would depend on how this changes the quality of her care), the child's consumption of market goods (which would be detrimental to the child), the quantity of care she provides to the child to work longer hours (which may or may not harm child outcomes depending on the quality of maternal care relative to the quality of non-maternal care), or a mix of all of the above. That is, a decrease in non-labor income A may be neutral or detrimental to a child's development in families that are in work while receiving welfare benefits even before the reform.

Among those not working in the absence of the reform (Group 2) some will be induced to commence working by the reform, with the same ambiguous effect on child development as among those already working set out above. In a more complex model that incorporates a direct influence of working hours H on child development (e.g., via role modeling), increased working hours could have an additional (and so far unspecified) effect on the child beyond that which is

mediated through the quality of maternal care. The same decrease in non-labor income A could be positive, negative or neutral for children growing up in families that are induced by the reform to take up work.

Others on welfare will not be working in the absence of the reform and will also not be induced to work by the reform, and so will suffer an uncompensated reduction in income. This will unambiguously have a negative impact on child development through a loss of resources.

The multitude of pathways through which an unconditional cash transfer can affect child development suggests that its effect would vary with other family characteristics, such as starting family wealth and the mother's education, among other factors. That the effect differs across those households where the mother already worked and those where she did not add a degree of systematic heterogeneity to the observed consequences for child development. In addition, dynamic models teach us to expect that there will be substantial heterogeneity with the child's age at which the reduction in cash transfers occur.

Consequently, the total effect of decreasing A on child development is dependent on the size of the respective groups (working or not working with and without the reform) in the welfare population and the size of associated effects, some of which are ambiguous in direction and likely highly heterogeneous across households, even within groups defined by their employment status in the absence of the policy reform (Bitler et al., 2017).

3.2 | Participation or activity requirements

The impact of policies that make access to welfare or childcare payments conditional on parental activity requirements can be analyzed in a similar way. Those already working in the absence of the reform are not likely to be much affected by it, as the requirements are likely non-binding for them.

Focusing on those families who are not working in the absence of the policy change, some of them will meet the new activity requirements and some will not. Those who choose not to meet the new activity requirements presumably forfeit their welfare payments. With the loss of welfare payments, the family will suffer an uncompensated reduction in income. This will unambiguously have a negative impact on their child's development through a loss of resources.

Some of the families who are not working in the absence of the reform will now meet the new activity requirements. They will maintain an unchanged income but with higher working hours. In light of this new budget restriction the mother can reduce her leisure time (the effect of which would depend on how this changes the quality of her care) or the time she spends providing care to the child (which may or may not harm child outcomes depending on the quality of maternal care relative to the quality of non-maternal care). If hours spent in activities induced by the reform have an independent effect on child development, for example via role modeling, a positive reform effect is possible. If activities have a positive effect on the future wage rate w, positive effects on child development might occur at a later date.

Once more, the total effect of the reform on child development is dependent on the size of the respective groups in the welfare population and the size of the associated effects, at least some of which are ambiguous in terms of their direction, and should depend on family characteristics such as family wealth, mother's education and children's age.

3.3 | Time limit policies

Strictly, the impact of welfare duration limits and their reduction should be analyzed using dynamic models of labor supply and child development, not a static model like that set-out above. But since these policies can be characterized as an extreme form of welfare payment reduction (to zero after a specified or accelerated duration) we would expect that the existence of strict time limits (or reductions in them) to result in effects in similar directions to those set out above for reductions in the generosity of the welfare payments. Once more the effects on child development for most groups will be ambiguous, but likely negative for children in households who experience only a decrease in income where there is no change in their mother's hours of employment.

3.4 | In work benefits and tax credit programs

In the case of a wage subsidy, or an EITC, the welfare policy effectively changes the wage rate w, rather than non-labor income. This introduces a further source of ambiguity. As the price for her working time increases, the mother should spend less time in leisure and less time in maternal care (substitution effect). Whether this improves or hinders her child's development, again, depends on the relative quality of maternal care to non-maternal care, as well as on the direct effect of her working time on her child's development and on its indirect effect via the quality of the care she still provides. In addition to this substitution effect, an increase in her wage rate also increases her total income, inducing an income effect with all its sources of heterogeneity as described for an unconditional cash transfer.

Among welfare recipients who would work anyway, we expect expansions of in-work benefits to have an ambiguous effect on maternal employment because the positive substitution effect on labor supply (the opportunity cost of leisure or foregone income becomes higher so the mother substitutes leisure for working) is offset by a negative income effect (the mother can afford to work less to maintain the same level of income as before). Consequently, for this group we expect that expansions of in-work benefits to have an ambiguous effect on child development because any positive income effect that comes with increased maternal employment (so that the mother has greater financial resources and discretion to devote to child development) is offset by a negative substitution effect that comes from the need to substitute time spent with children for labor supply. Similar offsetting effects on child development exist for children whose mothers are induced to move into employment but who would not work in the absence of in-work benefits. For non-working mothers who do not change their employment behavior in response to the in-work benefits, we should expect no change in child development outcomes.

To summarize, models of child development tell us that the effect of welfare policy design on children's outcomes can be mediated through many channels. Any aggregate effect will depend on how much a reform changes the incentives of heterogeneous households. The total effect of welfare reform will vary from policy to policy and with family circumstances and characteristics—especially the mother's employment status with and without reform, but also the child's age, the family's total income, and the mother's education and knowledge of parenting practices. Given the ambiguous effects derived from theory, empirical investigation of reform effects is crucial.

4 | THE INTERGENERATIONAL IMPACTS OF CHANGES IN WELFARE POLICY DESIGNS—EMPIRICAL RESULTS

In the remaining sections, we discuss four policy programs that have been evaluated empirically in the literature to assess their intergenerational impacts and mediating channels. We begin with evaluations on welfare benefit level changes, followed by activity requirement changes, time limit changes, and tax credit programs.

4.1 | Changes in the generosity of the welfare system

Increased generosity is often observed if a support payment is introduced or expanded to population groups that were previously not covered. For example, many studies evaluate the roll-out of the Food Stamps Program (now SNAP) in the US, where previously unassisted households received benefits to be spent at authorized food stores and retailers. Decreased generosity of the welfare system, on the other hand, often stems from tightened eligibility criteria (Dahl & Gielen, 2021; Fisher & Zhu, 2019) that removes access to payments for parts of the population. One recent example is Australia's 2006 "Welfare-to-Work" reform, which heavily reduced payments for single, non-working mothers with children aged over eight.

Overwhelmingly, studies establish a strong positive link between an increase in the generosity of the welfare system and child outcomes (Almond et al., 2011; East, 2020; Hoynes et al., 2016). Often, it is difficult to isolate the impact of more generous welfare payments because lower-income families tend to be entitled to a higher level of payments and have, on average, poorer health and well-being outcomes that predate benefit receipt. However, these studies address the concerns of spuriousness by comparing outcomes before and after the implementation of new policies and through using more comparable control groups. As a result, we have greater confidence that the improved health outcomes are likely the outcome of more generous welfare programs.

Among these studies, focus has been directed at assessing the consequences of more generous in-kind benefits, such as the Food Stamps Program that was rolled out across counties in the US between 1961 and 1975. Since food stamps act like cash transfers, changes in their generosity aid us in our understanding of the impact of welfare payments (Hoynes & Schanzenbach, 2009).

Examining the impact of more generous food stamp programs has been approached mainly with difference-in-difference models, exploiting the sharp timing of the county-by-county roll-out. East (2020) showed that the introduction of food stamps led to improvements in children's health at birth and adolescence, with suggestive evidence of fewer school absences, doctor visits, and hospitalizations among school-age children. Using a triple-difference model, East (2020) was able to identify the effect of the treatment on the treated and found that one additional year of food stamp access reduced rates of low birth weight by 1%, increased average birth weight by 0.2% and reduced parent-reported poor-health of 6–16-year-olds by 5%. Almond et al. (2011) also revealed significant improvements in infant health. For example, the incidence of low birth weight was reduced by 7-11%. In a follow-up study, these authors showed that reductions in poor health associated with food stamps extend into adulthood (Hoynes et al., 2016). They found that one additional year of early-life access reduced self-reported poor health in adulthood by 3%, similar but smaller than East's (2020) estimates on adolescents.

Another positive effect of the Food Stamps Program on children is improved adult health and economic outcomes, especially when children are exposed from a young age (Hoynes & Schanzenbach, 2018). As Currie (2009) explained, the most important period may be before birth, since foetal health appears to be particularly important for later life outcomes. Since parental socioeconomic status is important for child health and child health affects future educational attainment and employment (Currie, 2009), poor health may be a major cause of intergenerational persistence in economic status. Based on the available evidence, Currie (2009) concluded that the most effective policy for improving child health may be through protecting the health of mothers.

The positive effects of more generous welfare programs are not confined to the Food Stamps programs. When evaluating the impact of the Supplemental Security Income (SSI) program in the US, Ko et al. (2020) also found that more welfare assistance improved child health. These authors applied a regression discontinuity design and showed that low-income children with low birth weights experienced better health histories in their first 8 years of life relative to similar children who just missed out on the payment. SSI income was also found to reduce health care costs by 30%, decrease the likelihood of hospital admission by 11 percentage points and make both acute (infection, injury) and chronic (malnutrition, developmental delay) conditions significantly less likely. Findings from the evaluation of the Food Stamps programs as well as the SSI both suggest that income support can reduce the incidence of early health shocks for vulnerable children.

Where the welfare system was reformed to be less generous, individuals who lost access to welfare payments were found to (1) enter the workforce, particularly lone mothers with lower education levels (Gong & Breunig, 2014) and (2) sustain increases in labor market earnings, particularly young adults removed from disability insurance (Deshpande, 2016). When low-income individuals have less financial support from the government, they have also been shown to turn to alternative sources of income, including that of a new partner. For example, Fisher and Zhu (2019) found that mothers with low labor force attachment were more likely to re-partner with former partners soon after their income support payments were reduced.

Unlike the evidence regarding increased payment generosity, evidence on reduced payment generosity is more equivocal about the impact on children. In the short term, some children experience worse health outcomes while the long-term effects show reductions in program participation and changes in employment and earnings. These impacts differed depending on the country in which the reforms were implemented, and importantly, on whether or not parents offset the lower government income with higher employment income.

While some studies show that less childhood exposure to welfare reduces welfare participation in adulthood (especially the links within the same welfare program), others find little impact. Studies in Northern Europe, for example, reveal a strong causal link in intergenerational disability insurance receipt. In the Netherlands, children of parents who were cut off from disability insurance or had their benefits reduced were 11% less likely to participate in disability insurance themselves (Dahl & Gielen, 2021). In Norway, when parents were granted disability insurance, their adult child's participation rate increased by six percentage points after five years. The intergenerational welfare transmission amplified over time with children's participation rate increasing to 12 percentage points after 10 years (Dahl et al., 2014).

In the US, we also see evidence pointing to a strong "within program" intergenerational impact. Specifically, reforms to the US welfare system during the 1990′s, including the 1996 PRWORA[2] reforms, predominantly affected single mothers and tended to restrict program access overall by implementing policies such as payment caps, time limits, sanctions, and work requirements. Hartley et al. (2017) showed that mothers' welfare participation in AFDC/TANF[3] significantly increased daughters' participation *in the same program* by 30 percentage points, and the

various welfare reforms significantly attenuated this transmission by 50%. These authors arrived at this conclusion by exploiting the quasi-experimental nature of the cross-state variation in these reforms over time with a difference-in-difference model.

Where an intergenerational link in welfare receipt exists, it is likely explained by attitudes formed in childhood that reduce stigma and highlight the benefits of program participation. The mechanisms of attitudes, beliefs and norms—as opposed to better information about the application process—is found by two influential studies, to be the linking factor across generations (Boschman et al., 2019; Dahl et al., 2014). However, the latter study also showed that the link is of limited economic significance in the first place, as only 15% of the correlation between parental welfare receipt and child welfare receipt is causal, while the remaining 85% is explained by other factors. The authors, therefore, recommend policy measures that improve employment opportunities for children of benefit recipients rather than addressing the causal mechanisms of intergenerational transmission. Targeting parental welfare receipt, the authors argue, would contribute little to changing benefit receipt in future generations.

Studies that examine the impact of childhood exposure to welfare on other later life outcomes, such as across (as opposed to within) program participation, schooling, employment and health, tend to arrive at different conclusions. For example, the same US study by Hartley et al. (2017) that found strong within program effects, did not find any effects on welfare use *in general* for adult daughters of affected mothers. The reforms also did not appear to reduce other undesirable economic outcomes such as unemployment, poverty, and low human capital attainment. In attempting to isolate the poverty trap from the welfare trap, their findings point to a persistence in poverty status, rather than welfare use, that describes the strong intergenerational transmission of welfare participation.

The findings of Hartley et al. (2017) for US reforms, are *not* echoed by Dahl and Gielen (2021) in the Dutch context. Dutch children who grew up in families that lost access to disability insurance experienced not only lower program participation themselves but also improved economic outcomes such as increased years of schooling, better mental health, and higher labor market earnings in adulthood (Dahl & Gielen, 2021). A possible explanation is that opportunities to invest in human capital and plan for a future with less reliance on welfare might differ between the US and the Netherlands. In both countries, however, larger effects are found among younger children compared to older children, most likely because they have a longer period of exposure.

The lack of other major effects from welfare-to-work reforms on children is surprising. One reason may be because they did not reduce income for most families (Bennett et al., 2004). An outstanding question is what would happen to children in the face of these reforms if family income did decrease? Alternatively, what are the distributional impacts of these reforms? These are important questions because the most disadvantaged families tend to be the ones who struggle to find and keep work and who are made worse off after welfare reforms (Blank, 2007). In fact, income over the welfare reform period declined among US families that were poorer and the least educated (Bennett et al. 2004). Welfare reforms that replace unconditional transfers with benefits linked to work risk leaving the most vulnerable behind. When labor market earnings cannot compensate for the loss of welfare income, these risks may spill over to children's development.

Research on child outcomes in these most disadvantaged families is still emerging. Hoynes et al. (2016) study on the US nutritional assistance program sheds some light on this. They reveal that the positive long-term effects of early access to food stamps on adult health and economic outcomes are largest for those who spent their childhoods in the most disadvantaged counties. The available research to date suggests that welfare reforms which change the resources going to children can have disproportionate effects on those who are most disadvantaged.

Whenever changes to the generosity of welfare systems improve parents' employment outcomes, quality of non-parental childcare and its implications for child development become a topic of paramount importance. The 1996 PRWORA reforms in the US increased mothers' reliance on childcare (Teitler et al., 2004). Over one million additional families received public childcare support once the reforms took effect (Loeb et al., 2004). Concurrent expansions of early childhood programs meant young children in poor communities were spending more hours in non-parental care (Loeb et al., 2004). Among disadvantaged families, however, mothers rarely used formal child-care and most experienced high rates of unreliable child-care (Teitler et al., 2004). Fuller et al. (2002) find that low-income single mothers with young children who entered welfare-to-work programs (Temporary Assistance for Needy Families [TANF]) were found to initially rely on informal childcare arrangements. As women found more stable work, they increased their use of formal center-based childcare.

Reliance on informal care can carry risks for children, but also for the adults who provide that care—typically grandparents, and sometimes siblings. That means there is a trade-off between child well-being and the well-being of other adults or youths in the household. Where center-based childcare is utilized, quality of care (which is heavily influenced by career qualifications and career-to-child-ratios) also drives up cost of childcare provision and hence parents' out-of-pocket expenses—which in turn reduces their ability to cover other child-related expenses. Therefore, a potential policy implication is that targeted provision of subsidized childcare, as well as subsidies for privately provided care, can alleviate that burden. Blank (2007) noted that one of the strongest conclusions to be drawn from children affected by welfare reform is that their outcomes are improved by childcare subsidies.

The benefits of high-quality early childhood programs on cognitive development are clear (Duncan & Brooks-Gunn, 2000; Loeb et al., 2004). It may be even more important for children from disadvantaged families as it can buffer against the negative effects of poverty on child development (Cornelissen et al., 2018; Peisner-Feinberg & Burchinal, 1997; Vandell, 2004). Indeed, early studies showed that childcare quality can predict cognitive and social developmental gains into kindergarten, and for some outcomes, into second grade (Peisner-Feinberg et al., 2001).

But Loeb et al. (2004) showed that childcare centers selected by welfare and working-poor families vary widely in quality—and that low-quality center-based care may in fact depress cognitive development in infants relative to care provided by parents. That is especially concerning because recent evidence from experimental and quasi-experimental studies have established both short- and long-run benefits of high-quality childcare for low-income populations (Baker et al., 2019). Noncognitive skills, health, criminal behavior, educational attainment, and earnings are significantly improved for children from disadvantaged families (Carneiro & Heckman, 2003), with some evidence suggesting that the long-run impacts are driven by the initial non-cognitive improvements (Heckman et al., 2013). The heterogeneous effects from universal childcare programs, which target all children but tend to provide minimal quality care (Baker et al., 2019), also reveal positive outcomes for children from disadvantaged families (Cornelissen et al., 2018; Felfe et al., 2015; Havnes & Mogstad, 2011, 2015; Kottelenberg & Lehrer, 2017). This research reinforces the importance of high-quality childcare for children's later life outcomes.

Overall, introducing benefits for previously unassisted families has been shown to improve children's health, with lasting effects on health, employment and other outcomes into adulthood. Welfare reductions, on the other hand, positively affected parents' employment and income on average, but had only small empirical effects on their children, both during childhood and later in adulthood. Heterogeneity across the income distribution, with positive effects for some families

and negative effects for others, may explain these small overall effects. In particular, the most disadvantaged families do not experience the same increase in income and employment as affected families overall. This is likely to lead to unfavorable intergenerational effects when low-quality employment leads to low-quality childcare.

4.2 | Participation or activity requirements

Many liberal democracies implemented reforms in recent decades that made receipt of a welfare payment conditional on the recipient meeting some form of activity requirement, such as participating in education and training, meeting targets for a certain number of job applications as proof of job search efforts, or engaging in volunteer work. For example, prior to 2008, single parents in the UK could receive unconditional income support if they had a child younger than 16. In 2008, "Lone Parent Obligations" were introduced that required single parents with children between age 10 and age 16 to be available and actively seeking employment. Single parents now had to meet the same obligations as recipients of unemployment benefits and had to provide proof of their activities on a fortnightly basis.

Policies that make access to welfare or childcare payments conditional on activity requirements have both benefits and costs. Previous studies evaluating the impact of activity requirements, monitoring, and sanctions unanimously find that, on average, these policy measures tend to reduce welfare use and increase employment and earnings in the short term among parents (Fok & McVicar, 2013; Gong & Breunig, 2014) but also among other unemployment benefit recipients (Micklewright & Nagy, 2010). These benefits are hypothesized to occur because activity requirements can reduce the work disincentives associated with welfare provisions. We might also expect that activity requirements provide structure in the daily life of recipients and improve the future work prospects of recipients through greater skills acquisition.

This may not be true of all recipients though, as single parents are found to be less likely to leave welfare than partnered parents after the policy is implemented (Fok & McVicar, 2013). Fok and McVicar's difference-in-difference model exploits an Australian 2007 reform that introduced activity requirements depending on the youngest child's age. The estimates are both causal and statistically significant. Requiring 15 h of work per week from parents once their youngest child turned seven doubled the exit rate from welfare for parents with partners relative to single parents. Specifically, the probability of exit from welfare for single parents was 35% compared to 76% for partnered parents. This suggests that single parents may be less able to respond to the incentives set out by the policy, whereas partnered parents may be able to compensate lost welfare income from exit through higher partner earnings.

While activity requirements appear to increase employment and reduce poverty for single parents on average (Avram et al., 2018), some researchers have raised doubts about the effectiveness of some activation strategies aimed at low-income mothers since the costs associated with the activity requirements can often exceed the benefits of program participation (Currie, 2006; Ribar, 2014). As a result, activity requirements can reduce program take-up while leaving such individuals unemployed. Activity requirements have been found to impose significant costs on some groups, particularly for those who have low levels of prior attachment to the labor market. Blank (2007) draws attention to the group of disconnected single mothers who are left out of both the labor market and welfare system, particularly apparent in the wake of US welfare-to-work reforms that included new activity requirements. Assessing more recent studies, Danziger et al. (2015) note the difficulty faced by former welfare recipients following these reforms, especially for women at

the bottom of the income distribution who are unable to work steadily because of their childcare responsibilities and the nature of the jobs they find.

Avram et al. (2018) also found that the introduction of activity requirements targeted at single parents moved more single mothers into non-claimant unemployment or disability benefits than into work. Their difference-in-difference model exploits a 2008 reform in the UK that gradually reduced the child age at which single parents could claim unconditional benefits, thus pushing parents who required income support onto unemployment benefits with activity requirements. Following the reform, single parents were 10 percentage points more likely to move into work, but 18 percentage points more likely to either receive disability benefits or remain unemployed but without welfare.

Where activity requirements improve job take-up among the unemployed population, low job quality in the form of low earnings, low educational requirements, or short employment duration is often the result (Arni et al., 2013; Petrongolo, 2009; Van den Berg & Vikström, 2014). However, parents may react differently from the unemployed populations analyzed in the above studies, which tend to comprise of individuals with stronger prior attachment to the labor market and who do not necessarily have children. Parents—especially those with young children—may face stronger barriers to finding higher quality employment. For example, they may have limited time availability or weaker labor market experience. Alternatively, they may prioritize other employment traits such as flexibility over higher wages or more stable, full-time work.

More research is required that specifically examines the impact of activity requirement reforms on the quality of the job taken up by *parents*. This is particularly important for the purpose of this article because the literature documents associations between job quality and child outcomes. For example, Strazdins et al. (2010) find increased emotional and behavioral difficulties among children with parents who held poor quality jobs, independent of income, parent education, family structure and work hours, especially among low-income households and lone-mother families. Usdansky et al. (2012) find that mothers with young children with high-quality jobs have lower levels of depression than those with low-quality jobs, regardless of whether they prefer to work or not. To the extent that the well-being of mothers is important for child outcomes, activity requirements that drive low-quality employment may have harmful intergenerational effects.

Helping those with poor work histories find stable employment has been found to reduce parenting stress and improve the academic behavior of children (Gibson, 2003). Evidence from New Hope participants corroborates early research that claims child outcomes are linked to the emotional state of parents (see Gibson, 2003 for an overview). New Hope was an anti-poverty program rolled out in the US state of Wisconsin in the 1990s as a randomized experiment and offered community-service based full-time employment, job search assistance, childcare subsidies, wage subsidies, and health insurance. Among parents who exclusively used job search assistance, parents experienced a reduction in parenting stress by 0.29 standard deviations while children showed increased positive behavior by 0.87 standard deviations, increased academic achievement by 0.52 standard deviations and reduced negative behavior by 0.79 standard deviations. Given the unique program design where participants could select the type/s of support they received, a novel approach of propensity score matching was used to define treatment and control groups within each support type. However, given the only partially exogenous assignment of treatment and control groups, the estimates cannot be interpreted in a causal way.

In contrast, cycling in and out of work appears to be bad for child behavior. Using longitudinal survey data on women leaving welfare for work following the 1996 US welfare reforms, Kalil et al. (2001) focus on maternal employment patterns and children's development between ages two and ten. They find leaving welfare to enter unstable, transitory jobs increased children's anxious and

depressed behavior by 7-12% of a standard deviation. Using the same survey with three additional waves of data and children now aged between 5 and 17, Johnson et al. (2012) find worse behavior and academic achievement among children with mothers who worked in unstable jobs, had fluctuating work hours, or required full-time employment. The take-up of unstable jobs can be a direct channel through which activity requirements may negatively affect child well-being. Compared to the take-up of more stable jobs, it can also be less remunerative, which means parents are less able to offset the effects of reduced parental time with access to higher quality childcare services.

A lift in employment when it is unaccompanied by a lift in income has been shown to have negative effects for child outcomes. This was found to be the case for the 1996 PRWORA reforms in the US, which required welfare recipients to engage in 30 h of work-related activity per week in order to qualify for cash assistance. Children whose mothers worked in response to this reform, relative to those who did not work, scored lower on cognitive ability tests in their first two years of life (Herbst, 2017). This author also found that any maternal work in the child's first year of life reduced cognitive ability by 6.8%. The cumulative impact revealed that each month of employment during the first year reduced cognitive ability by 1%. While the negative effect from full-time work was statistically significant at 13.5%, part-time work did not significantly harm cognitive ability. In this study, Herbst (2017) used an instrumental variable approach, exploiting variation across US states in work requirements policy.

Since work requirements have been shown to have little effect on the mean incomes of welfare recipients (Grogger & Karoly, 2005), we can extrapolate that an increase in employment but not in income may generate worse outcomes in early childhood. These negative effects on cognitive ability and child behavior, however, faded by age 5 Herbst (2017) . In an attempt to identify the mechanisms, Herbst estimated an increase in depressive symptoms among working mothers, along with reduced breastfeeding and reading to their child, while children experienced behavioral complications, non-parental childcare from a younger age and more time in this care during their first year of life.

Similar to the discussion about the impact of changing generosity of payments, income may play a large role in mediating the impact of activity requirement reforms because it enables parents to afford better quality childcare. It may also explain the seemingly conflicting results found by a recent study, showing that activity requirements imposed on fathers in Australia worked to reduce the intergenerational correlation in the father-child receipt of unemployment benefits (Cobb-Clark et al., 2020). This study also found positive impacts on role modeling, changes in attitudes and improved health. When fathers (as opposed to mothers) are required to fulfil additional activity requirements, children may not be as negatively affected since the policy may not compromise the amount of childcare received to the same extent.

Previously, without much experimental data on maternal employment and child outcomes (with the exception of the New Hope program mentioned above), the best attempt at identifying a causal effect of activity requirements was to rely on models with extensive controls and fixed-effects using longitudinal survey data, as implemented by Kalil et al. (2001) and Johnson et al. (2012) discussed above. More recently, Cobb-Clark et al. (2020) adopted a methodological approach—a regression discontinuity design—that allowed them to make a stronger statement about the causal impact of activity requirements. Notwithstanding these methodological improvements, the impact on children of parents leaving welfare is still not easily separated from employment effects: it is hard to identify whether or not the changes in child outcomes due to welfare-to-work transitions depends on the type of employment secured by the mother.

Overall, the potential negative intergenerational impacts may not be isolated to parents who are left out of both work and welfare. Despite the lack of evidence on the direct effect of activity requirements on children, these general findings suggest worse outcomes for children whose parents experience short term, unstable employment rather than long-term, high-quality employment, with possible long-term harm caused by parental job loss. As expected by theory, activity requirements tend to increase employment and ambiguously affect child development. Drawing on empirical evidence, the intergenerational impact is likely to depend on the quality of employment and childcare.

4.3 | Time limit policies

Time limits attached to welfare programs encourage individuals to postpone welfare participation and preserve access to welfare for future use. Since 1996 in the US, for example, families were restricted from receiving welfare for more than 60 months during their lifetimes.

Previous studies find that time limits have substantial effects on welfare use (Grogger, 2002, 2004) and employment but little effect on labor supply and earnings among single mothers (Grogger, 2003; Grogger & Michalopoulos, 2003; Low et al., 2020). Grogger (2003) suggests that time limits hasten the job search for mothers already participating in the labor market, resulting in poorer job matches and lower wages, but they do little to encourage participation of mothers who are out of the labor force. The multi-reform analysis undertaken in the same study shows that tax credits were more effective at increasing labor supply than time limits.

The effects of time limits on reduced welfare use are greater the younger the youngest child in a family (Grogger, 2003, 2004; Grogger & Michalopolous, 2003): as the youngest child grows older the eligibility period becomes shorter and the incentive to preserve future eligibility falls. In the US, for example, families with children over 13 are not constrained by the 5-year time limit since families become ineligible for welfare once their youngest child turns 18. Consequently, time limits have no effect on families with youngest children above 13. Given that mothers tend to leave welfare well in advance of exhausting their benefits (Low et al., 2020), young children may be doubly harmed by time limits. Low et al. (2020) showed time limits impose larger welfare losses on those affected, compared to alternative reforms that can generate equivalent government savings like benefit cuts.

In general, time limits reduce benefit use as women defer claiming benefits until their children are older. The effects on employment tend to be smaller than on welfare use, with employment increasing about half as much as the decline in welfare use. Low et al. (2020) estimated an 8.7 percentage point drop in welfare use by single, low-educated women in response to time limits, relative to a five percentage point increase in employment. Grogger (2003) estimated a 6.6 percentage point decline in welfare use for female-headed families whose youngest child is 3 years old, but only a 3.4 percentage point increase in employment. Both studies draw on US labor and welfare surveys covering periods 1989–2007 and 1978—1999, respectively, relying on state variation in the introduction of time limits to generate quasi-experimental evidence. Low et al. (2020) estimated long-run impacts by including data well after the 1996 welfare reforms, that is, between 2002 and 2007. The long-term effects remained significant and became slightly larger with a 10.8 percentage point decline in welfare use and a 5.5 percentage point increase in employment among single mothers. Again, about half of those leaving welfare did not move into employment. These women increased their reliance on food stamps while partnered women had fewer divorces, since the alternative to staying partnered worsened. In contrast, Moffitt et al.

(2020) found that time limits alone had no impact on family structure (although overall reforms related to work incentives—sanctions, work requirements, earnings disregards, and time limits—did increase single motherhood and decrease marriage to biological fathers). These authors used state and eligibility variation in US welfare policy from 1996 in a triple difference model to study outcomes up to 2008.

Limited evidence exists for the impact of time limits on children. Florida's Family Transition Program, introduced in Escambia County between 1994 and 1999, applied a 24-month time limit to the earnings supplement which provided only a small amount of additional income to treated families (Morris et al., 2001). Child outcomes were assessed four years after parents' enrolment in the treatment or control group and included cognitive/academic development, behavioral/emotional adjustment and health (Zaslow et al., 2002). At the time of follow-up, only 20% of families reached the time limit, which may explain the lack of effects found for children. While mothers initially increased their employment, earnings, and modestly increased their overall income, these impacts disappeared by the four-year follow-up. There was also suggestive evidence of an increase in families with extremely low income. For children aged 5–12 at the follow-up, behavioral adjustment was slightly worse but health was improved. For adolescents aged 13–17 at the follow-up, the likelihood of school suspension increased with no effect on other outcomes. Given the small-scale rollout of this policy more than two decades ago, the results may not generalize to the impact of time limits today.

The intergenerational impacts of time limits are unclear as there is not enough research to tell us about how the effects of time limits on parents may affect children. This seems to be due to both a lack of suitable policy variation, to isolate the effects of time limits, and data that includes child outcomes. Theory informs us that time limits may have negative effects on child development outcomes by reducing household income. If mothers respond by entering the labor force or increasing hours of employment, lost income might be recovered, but this effect needs to be weighed against reduced parental time. The cost of reduced parental time is highest for youngest children, and at the same time, time-limits provide the strongest work incentives to families with the youngest children. This provides a strong, albeit empirically unproven, argument that time-limits are likely an inferior policy choice, compared to policies that would provide stronger work incentives to parents of older children for whom parental care is less important.

4.4 | In work benefits and tax credit programs

Tax credit programs, such as the EITC in the US or the Working Families Tax Credit (WFTC) in the UK, are designed to encourage work among low-income families. In the US, for example, tax credits deliver a cash payment that increases proportionally with earned income until a maximum credit or maximum income limit is reached. After a plateau region, the supplement is phased out more slowly than it is phased in. In the UK, tax credits are paid up to a maximum amount if family income is below the threshold and one adult works 16 h or more per week. The credit depends on the number and age of children. As income rises the benefits are tapered down.

Most previous studies find that tax credits lift employment (Bastian, 2020; Blundell, 2000; Eissa & Liebman, 1996; Eissa & Hoynes, 2004; Neumark et al., 2020). These effects mainly operate through increasing the labor force participation rates of single mothers. In the short term, the introduction of the WFTC in the UK had strong positive effects on labor force participation among single parents (Blundell, 2000). Similarly, the Self-Sufficiency Project (SSP) in Canada, an experiment which provided an earnings supplement to a random sample of single-parent welfare

recipients during the 1990s, had substantial effects on employment, earnings and income (Morris & Michalopoulos, 2003). For instance, the treatment group doubled their full-time employment (28%) relative to the control group (14%) in the 12 months after random assignment and increased their earnings by $90 Canadian dollars per month. In the US, the introduction of the EITC in 1975 significantly increased employment, hours worked and earnings among single mothers relative to women without children. Using a differences-in-differences model, Bastian (2020) found that between 1975 and 1980, single mothers increased their employment by 6.2% (from a baseline of 53%), annual hours worked by 5.7% (35 h) and earnings by 7.3% ($750 in 2013 US dollars). Hoynes and Patel (2018) examined the period shortly after this, between 1984 and 1998, to study the three federal EITC expansions prior to the major welfare reforms in 1996. Using variation over time and family size in a parametrized differences-in-differences model, the authors estimate significant reductions in poverty among disadvantaged single mothers with children. Specifically, they show that a $1000 increase in EITC income increased the chance of single mothers having income above poverty by 6.7 percentage points, relative to women without children.

However, single mothers who were already in employment largely did not change their labor supply (Blundell, 2000; Meyer, 2002). One possible reason is that many mothers who are already working part-time face disincentives to supply additional labor beyond the part-time level. Part-time hours appear to be a natural limit for those outside of the labor force as well. In the UK, single mothers entered the labor force when the hours eligibility limit decreased from 24 to 16 h per week, which meant part-time work qualified them for the credit (Blundell & Hoynes, 2004; Brewer et al., 2006). The effects of the credit were also limited for married mothers as they faced disincentives to contribute to family income that pushed the family above the maximum income limit. Work-contingent tax credits based on family income tended to reduce the labor supply of married mothers in both the US and UK (Blundell, 2000). Bastian (2020) reiterates this with suggestive evidence that the introduction of the EITC reduced employment for married mothers with spousal earnings in the phase-out region, since secondary earners cost these households EITC benefits. On the other hand, married mothers with zero spousal earnings behaved like single mothers and increased their employment by 6.5 percentage points. As spousal earnings increased, married mothers reduced their employment. For every $10,000 (2013 US dollars) in spousal earnings, married mothers decreased their employment by 0.9 percentage points.

In the longer-term, the effects diverge across countries. The SSP in Canada had little impact on employment, wages, and welfare participation (Card & Hyslop, 2005) while the EITC in the US increased employment, reduced poverty, and reduced welfare participation (Neumark et al., 2020). This difference could be explained by the different program evaluations. In Canada, a control group was available to compare outcomes while in the US, disadvantaged neighborhoods were tracked against relatively advantaged neighborhoods to assess their convergence overtime.

Despite mixed long-term impacts, the majority of studies evaluating the short-medium term impact of income tax credits substantiate the significant and positive impact on labor force participation among single parents (Blank, 2002; Eissa et al., 2008; Hsueh & Gennetian, 2011).

These effects on parental labor market outcomes may change the circumstances in which children grow up. EITC expansions in the US encouraged single mothers to enter the workforce, the majority of whom take on full-time hours (Eissa & Hoynes, 2006). Time-use diaries confirm that EITC expansions encouraged single mothers to replace housework and leisure with market work. However, time spent on childcare was unchanged (Gelber & Mitchell, 2011). While these studies establish the change in parental inputs into their children, the direct effect of this on child outcomes is still to be determined.

Other studies bypass the effects of welfare reform on parental inputs and instead look directly at children's outcomes. Tax credit policies which increase family income have been shown to improve a range of child outcomes including infant health (Hoynes et al., 2015), child health, noncognitive skills, quality of the home environment (Averett & Wang, 2018), test scores (Chetty et al., 2011; Dahl & Lochner, 2012, 2017), college attendance (Bastian & Michelmore, 2018; Manoli & Turner, 2018), high school completion, and earnings in young adulthood (Bastian & Michelmore, 2018). However, the outcomes associated with the 1993 EITC expansion (Averett & Wang, 2018; Hoynes et al., 2015) cannot be interpreted causally because, as noted by Dench and Joyce (2020), the reform lacks a sharp discontinuity to cleanly identify the treatment and control groups when families with one child are compared to families with two children.

Chetty et al. (2011) offered only suggestive evidence of positive EITC effects on child test scores because of the strong identification assumptions required to exploit the nonlinearities of the tax schedule. Using tax returns from 1988 to 2008, the authors show that a $1000 tax credit increases student test scores by 6-9% of a standard deviation, with larger effects for students in middle school (8.5%) than elementary school (7.3%). Manoli and Turner (2018) also exploit the nonlinearities of the EITC benefit schedule but instead use a regression kink design with administrative data between 2001 and 2011 containing almost all high school seniors in the United States. The authors find that for low-income households, an additional $1000 tax credit increases college enrolment by 1.3 percentage points (from a base of about 30%). Using changes in EITC generosity to instrument for changes in family income, Dahl and Lochner (2012) and Bastian and Michelmore (2018) found small but positive effects of the EITC on child outcomes, using data between 1988–2000 and 1968—2013, respectively. They find that a $1000 increase in family income generated by EITC exposure increases test scores by 0.04 standard deviations (Dahl & Lochner, 2012), increases the probability of finishing high school by 0.2 percentage points and increases the number of years of schooling by 0.01 years (Bastian & Michelmore, 2018). Bastian and Michelmore's results are significant for children exposed between 13 and 18 years, but not for younger children between 0 and 12 years.

5 | OVERARCHING THEMES IN THE LITERATURE

In Section 4, we discussed effects of welfare design reforms on parents, and in turn on children. As different types of reform have different effects on the work incentives faced by families, they induce very different behavioral responses which in turn create different outcomes for children. However, there are some common themes we summarize below, that require the attention of researchers and highlight avenues for future research.

5.1 | Disentangling mechanisms of reform effects

By and large, empirical results suggest that the most beneficial type of reform from a child development perspective is expansions to in-work benefits. Tax credits may be particularly beneficial for children's development as they can positively impact both parental employment *and* family income. This is because the subsidy increases with employment up to a given level of income. However, as both variables change together, any analysis that finds a positive reform effect, leaves the following question unanswered: does an increase in maternal employment positively affect child development independent of employment income gains? The documented improvements in children's cognitive outcomes and educational attainment could be working through either

the role-modeling effect of greater parental employment or through income channels. At the same time, reduced parental time could potentially counteract these positive effects. The same question arises with respect to the effects of work requirements. While there is some research that aims to tease out the exact mechanisms, no conclusive answer has yet been reached (Herbst, 2017).

Causal evidence from experimental welfare reform evaluation studies shows children in preschool and elementary school improve their academic achievement when both income and parental employment increases, but not when employment increases alone. Adolescents, on the other hand, appear to be negatively affected even when income increases (Dave et al., 2021; Duncan et al., 2011; Morris et al., 2005). That additional financial resources are key in driving improvements in children's school achievement and behavior is also shown in the evaluations of the SSP in Canada and the Minnesota Family Investment Program (MFIP) in the US (Blank, 2002). More income matters even when it is not complemented with mandatory employment programs. However, mandatory employment programs alone were not effective at improving child outcomes. In a similar vein, analyses on work requirements demonstrate the importance of dual employment and income effects for child outcomes.

Additional income may act as an important mechanism because it allows families to afford formal childcare and after-school programs. Summarizing a set of welfare-reform random assignment experiments rolled out in the US during the 1990s, Duncan and Chase-Lansdale (2001) suggest that childcare programs drive the positive policy effects on children, rather than changes in the home environment such as changes to parental mental health or to the family routine. Studies on tax credit programs, which tend to lift employment and earnings, support these results by showing that additional family income earned through the EITC improved children's test scores in a modest but causal way (Chetty et al., 2014; Dahl & Lochner, 2012).

To summarize: studies that aim to separate employment effects from income effects, tend to conclude that increased employment without increased income has an undesirable effect on children's development, while increased income has desirable effects whether or not it is combined with increased employment. Following from this evidence, it can be surmised that role model effects are of limited importance, and that instead financial resources are the main driver of child development. Financial resources are especially important for young children because it allows parents to afford better quality childcare programs.

However, this conclusion is based on only a handful of studies, and most research we reviewed does not allow conclusions about relevant transmission mechanisms that drive overall reform effects. More research in this area is clearly needed. As the rollout of policy reform often does not allow us to separate employment effects from income effects, qualitative research may generate useful, complementary results, as in-depth interviews can tease out why families changed their behaviors in response to a reform package.

5.2 | Heterogeneous effects by children's characteristics

Another common theme across evaluations of different types of reforms is that the intergenerational impacts are sensitive to the circumstances of the specific child.

In particular, the age of the child at the time of the reform is a key factor. Much research focuses on young children's outcomes, with less evidence on adolescents and young adults. A greater understanding of the latter and why the effects may differ between younger and older children can enable policy-makers to better tailor welfare policies.

Adolescent-aged children appear to experience stronger negative impacts when their parents are affected by welfare reforms, compared to younger children.[4] This was found to be the case for adolescents of parents who were subject to activity requirements—even if parents acquired additional family income (Grogger & Karoly, 2009; Herbst, 2017). In Canada, children fared worse when their parents were subject to the country's SSP program of work-conditioned transfers if exposure to the reforms took place during adolescence. Grogger and Karoly (2009) found that exposure to SSP at 16–17 years increased the risk of teenage parenthood by 9.7 percentage points, while Morris and Michalopoulos (2003) report an increase in substance use by about four percentage points and a slight drop in academic performance. Using small-scale randomized program implementation in the US and Canada, Morris et al. (2009) found increased drop-out rates among adolescents that are likely linked to parents' type of employment (work schedule, total hours, job quality etc.)

When teenagers are asked to supplement household responsibilities, such as caring for younger siblings while the mother is at work, this too tends to have unfavorable effects on their behavior. Hsueh and Gennetian (2011) showed that policy-induced maternal employment which does not increase income but does increase sibling care is associated with poor adolescent school outcomes such as performance, suspension, and expulsion. Dave et al. (2021) showed similarly negative results from welfare reform which increased maternal employment on adolescent social behavior, such as less volunteering, skipping school, damaging property, fighting, smoking, and drug use. Unlike preschool-aged children, low-income adolescents do not respond positively to policy-driven increases in maternal employment, especially among those with younger siblings (Hsueh & Gennetian, 2011). We noted above that increased employment can improve outcomes for young children as long as it comes with increased income, and especially if that income buys access to better childcare programs. However, this mechanism is obviously not relevant to older children and adolescents. As a result, the same welfare reform could have vastly different effects on children of different ages, even within the same family.

The intergenerational effects of work requirements are found to be most positive for preschool children when they raise family income and increase the use of formal childcare (Grogger & Karoly, 2009). Grogger and Karoly (2009) used follow-up surveys from the MFIP and SSP programs which cover children aged between 5 and 18 years. The authors find third grade reading (math) scores are significantly improved among children who were affected by the policy when they were between 0 and 3 (3–4) years of age. Increased family income from employment, however, did not alleviate the negative impact of the policy on adolescents. The divergent outcomes between age groups suggests that the role of supervision is an important one. While childcare is a natural option for preschool children, teenagers may choose to spend their time engaging in problem behaviors like skipping school (Grogger & Karoly, 2009). It is possible that the significant increase in childcare by single parents mediated any potential negative effects of increased employment on young children (Grogger & Karoly, 2009). In fact, childcare may have advanced their outcomes since children with single parents showed improvement in their third-grade achievement scores while affected children from two-parent families experienced no significant improvement.

The impact of increased family income on children not only depends on the child's age but also their background and family characteristics. Dahl and Lochner's (2012) instrumental variable analysis on EITC expansions in the US during the 1990s showed that children from disadvantaged families benefit most from increases in family income. For example, achievement among minority children, children with low educated mothers and children with unmarried mothers increased by 0.05 to 0.08 standard deviations with every $1000 increase in income. Given that the EITC

generates labor supply responses among single mothers, this type of analysis cannot say whether income or maternal employment improves child development.

5.3 | Long-term effects

To date, the evidence on long-term effects tends to be suggestive only. Maxfield (2013) studied the 1993 EITC expansion to show that increased family income during elementary school increases the probability of high school graduation and college attendance. As with the two studies mentioned previously that use this reform, the identification relies on differences between families with one child and families with two children. As noted by Dench and Joyce (2020), the resulting outcomes may lack a causal interpretation. Akee et al. (2020) reported positive, but small, correlations between parental income and child outcomes among those exposed to the EITC expansions during the 1980s and 1990s. They find that at ages 25–26, exposed children have increased income, higher probabilities of employment and lower EITC take up. An exception is Bastian and Michelmore (2018) who provided causal evidence on the long-term impacts of EITC generosity on children. Using four decades of changes in EITC generosity, the authors find increased annual earnings among children exposed between 0 and 12 years. However, education and employment impacts in adulthood among these children were insignificant. Among children exposed between 13 and 18 years, the authors found the impact on their annual earnings in adulthood to be insignificant.

As long-term outcomes on children emerge, we must be careful about extrapolating these effects to adulthood. Recent evidence on intergenerational disadvantage suggests that adolescent behavior can be a misleading proxy for later-life outcomes (Brenøe & Lundberg, 2018). What is clear is that the impact of tax credit policies on children can vary depending on the population affected. For example, we would expect the effects to vary depending on household composition, parental education, age and gender of the child, and the outcome of interest, for example, labor market outcomes versus drug use (Dave et al., 2021).

Overall, as theory would predict, increases in income appear to positively affect child outcomes while increases in employment have negative effects. In the presence of both outcomes, the empirical results suggest that positive income effects can offset reduced parental time. More research is required to understand the heterogeneity in these outcomes, such as the divergence in child and adolescent responses to maternal employment.

5.4 | Welfare reform effects in a changed economic context

The programs discussed above were mostly implemented in the context of a strong economy with low unemployment rates. In such a context, parents are better able to respond to reforms by finding work and leaving welfare. Yet, in a context where there are few labor market opportunities, low real wages, increasing precarity in the nature of jobs for some, it begs the following questions: (1) How does the economic environment affect the success and intergenerational impacts of welfare reforms? and (2) Should the generosity of the welfare system be pegged to the state of the economy, with welfare acting as a shock absorber and risk transferred from individual families to government, when the economy is weak? These outstanding questions are particularly important in light of the effects of COVID-19, which has induced job loss in some sectors and accelerated changes in the structure of the economy.

6 | METHODOLOGICAL CONSIDERATIONS

As discussed in Section 3, ex-ante one would expect very heterogenous effects of a given welfare reform on child development, depending on specific family characteristics such as children's age, family wealth, and—crucially—parental employment status with and without the reform. Hence, we would expect average reform effects across an entire population of welfare recipients to vary with the distribution of these characteristics. The empirical results do indeed show great variation in reform effects along the described dimensions. For example, as discussed previously, welfare reforms in the United States in the 1990s have been found to provide some health and cognitive benefits to young children. Yet, the same reforms appeared to have impaired the academic development and school attendance rates of adolescent children. Thus, identifying the heterogenous impacts of a policy—particularly if there are winners and losers—is a necessary component of any policy evaluation.

However, there might be another reason why the estimated reform effects vary from study to study and from reform to reform: the quality of the estimation method could be to blame. There are many different methods for policy evaluation in the researcher's toolbox, but they are not all equally reliable, and suffer from different flaws and drawbacks. However, the decision of which method to apply is often driven by the specific ways a policy was implemented which often determines which estimation method is feasible to use for the policy's evaluation. This section outlines some of the benefits and drawbacks of commonly-used approaches, with direct application to the topic of the intergenerational impacts of welfare reforms.

All policy evaluation must aim to obtain a causal effect: how did outcomes change because of the policy intervention? To estimate the causal effect, ideally, we would compare the outcomes of an individual who is subject to an intervention with the outcomes for that same individual had they not received the intervention. In reality, we do not observe this clean counterfactual. Instead, studies on the intergenerational effects of welfare reform have relied upon on an array of experimental and non-experimental techniques to simulate an appropriate counterfactual. Given the potential heterogeneous impacts of a policy, an important point to note is that different methods can yield different estimated causal impacts of policy—simply because they are evaluated on different groups within the population (or the implicit weightings for groups differ).

6.1 | True experiments and randomized control trials

Social experiments are an attractive option for evaluating the effects of policy interventions because the treatment is randomly assigned by design and thus can provide a proper counterfactual. In a Randomized Control Trial (RCT) individuals are randomly assigned to a policy intervention or not, which would guarantee that—on average—the treated group and the control group are equivalent in their background characteristics. Then, the average difference in the outcomes between these two groups can be attributed to the causal impact of the policy intervention.

A key insight provided by randomized earnings supplement programs rolled out in both the US and Canada in the early 1990s is that adverse effects from reduced parental time can be offset by positive income effects. For example, preschool and elementary school children's academic achievement improved when both income and parental employment increased, but not when employment increased alone (Duncan & Chase-Lansdale, 2001).

A second key insight from these RCT studies is that policies promoting maternal employment have vastly different impacts on children depending on their age of exposure. For example, while preschool and elementary children were shown to benefit from policy reforms in the US, very young children, especially below age one, but also up to age three, were adversely impacted by increased maternal employment. Furthermore, randomized earnings supplement programs in both the US and Canada, rolled out prior to 1996, had detrimental impacts on adolescents' outcomes such as their academic achievement and school attendance rates (Grogger & Karoly, 2009; Morris & Michalopoulos, 2003; Morris et al., 2009).

Based on these strong heterogenous impacts, a likely channel of effect of policy reform is the exposure to alternative care. When parents increase their employment, children who receive higher-quality care in place of parental care stand to benefit more than others who receive lower quality care. Adolescents who were left without any alternative supervision, and thus given less adult attention in total, were more likely to engage in risky behaviors and to miss school (Morris et al., 2009).

Despite RCTs being considered a "gold-standard" in causal estimation, they raise a number of potential issues: if those who are willing to participate in the experiment are not representative of the wider population at whom the treatment would be targeted, results do not easily transfer from the experimental setting to a wide-spread rollout of the policy. Similarly, experiment participants may behave in ways that do not reflect how they would behave in a non-experimental setting. Last, the large costs associated with setting up and conducting RCTs can make them prohibitively expensive to conduct. Cost barriers often result in small experiments, which lead to scaling issues. As a result, most researchers have to rely on non-experimental approaches when studying the intergenerational impact of welfare reforms.

6.2 | Early observational studies and data requirements

Learning the impact of a welfare reform with observational data requires the researcher to be aware of the contrast between causation and correlation. Simply comparing the observed outcomes of those who do (treated) and do not (control) receive an intervention may be problematic because there may be pre-existing differences in the outcomes of these two groups. For example, some individuals may choose to undertake the intervention (or be chosen by program administrators) because they are more likely to benefit from a program compared to the rest of the eligible population.

Earlier studies using observational data relied on controlling an extensive set of observable characteristics to ensure the treated and control groups were as similar as possible (see Kalil et al., 2001, as an example). Matching techniques as well as ordinary regressions can be used for this purpose. However, if an important characteristic differs between treated group and control group but is not observed, these methods cannot identify a reform's true causal effect. Moreover, if samples are small, the number of individuals who are not affected by a policy intervention but are very similar in all other characteristics to those who are treated, might be very small.

Many early studies suffered from two such key data limitations. The first is the lack of information on mothers' welfare participation status. For example, the National Longitudinal Survey of Youth (NLSY) only has annual indicators for welfare participation. Second, datasets contained relatively small sample sizes, especially when focusing on a disadvantaged population of welfare recipients. Together, these data limitations greatly hindered the scope of analyses.

Greater access to administrative datasets and a longer time span of survey data have enabled researchers to reach new insights. Specifically, they have been able to conduct policy evaluation by linking current adult or longer-term outcomes with past exposure to policy reforms in a way that was previously impossible. For example, more generous payments such as SNAP receipt has been linked to a wide range of positive outcomes, including improved adult health, improved child health in the long run, and higher academic achievement for students (Almond et al., 2011; Gassman-Pines & Bellows, 2015; Gregory & Deb, 2015; Hoynes et al., 2016). Another benefit of administrative data is that it provides highly frequent accounts of information. This includes the dynamics of welfare receipt by parents and/or precise information about demographic characteristics such as date of birth or date of a key event. This has subsequently allowed researchers to capitalize on the practical advantages offered by new econometric methods.

6.3 | Selection on unobservables—Difference-in-differences and triple differences

Over the past two decades a growing body of applied research in social sciences has exploited natural experiments to tackle selection issues. Where a policy is introduced only for a sub-set of the entire population—e.g., a cohort defined by age or region of residence—this is used as a "pseudo" experiment that allows researchers to compare a group that is affected by a policy with another group that is not. Because these groups could differ in important ways even before the policy in question was implemented for one of them, the difference-in-difference (DD) estimator—one of the most popular methods used in the literature on the intergenerational impacts of welfare reform—compares their outcomes both before and after the policy implementation. Examples include: Hoynes and Schanzenbach (2009); Almond et al. (2011); Hoynes et al. (2016); Hartley et al. (2017); Avram et al. (2018); Hoynes and Patel (2018); Bastian (2020); East (2020); Low et al. (2020).

DD estimators are not always able to ascertain a policy's true causal effect. For example, a geographic region such as a county or state might adopt activity requirements for mothers of young children because societal acceptance of working mothers in that region is growing; another region did not implement the same activity requirements because their prevailing culture is different. Such differences could confound the policy inference. Similar concerns have been raised with identification strategies using other comparison groups, such as those based on family size or women with and without children (Blundell & Hoynes, 2004; Eissa & Hoynes, 2004; Hoynes & Patel, 2018).

In addition, the policy implementation might have coincided with other, unrelated major institutional changes (e.g., policies around birth control or divorce) or economic changes (e.g., the oil and food price shocks of the 1970s or the global financial crisis).

To combat such issues, DD estimators are sometimes extended to a Triple Difference (DDD) estimator. For example, Bastian (2020) used a placebo group of EITC-ineligible mothers in a DDD specification to net out some of the pre-existing differences in the trends of residents from different locations. This DDD strategy was also used by East (2020) and Moffitt et al. (2020) to name a few recent studies.

6.4 | Selection on unobservables—Instrumental variables method

A closely related approach is the Instrumental Variables (IV) method. Here, the policy reform is not itself evaluated, but utilized to estimate the causal effect of some variable of interest—such as family income—that the policy changed. For example, Dahl and Lochner's (2012) instrumental variable analysis on EITC expansions in the US during the 1990s showed that children from disadvantaged families benefit the most from increases in family income. Here, the EITC expansion quasi-randomly gave some families more income than others. Another key insight derived from an IV-based study is that the cultural channel, namely attitudes towards the welfare system, may explain the intergenerational transmission of welfare receipt. Specifically, Dahl et al. (2014) found children of disabled parents who successfully appealed welfare decisions were more likely to later receive welfare themselves.

IV estimators in the context of empirical analysis of welfare design reform are not without their issues. First, the policy itself could have had only a weak relationship with the variable of interest (such as family income), or it could have had an effect on the studied outcome through an additional, independent channel.

Second, researchers are typically interested in the effect of a variable such as family income for a large population, for example, low- and medium-income families. But the estimated effect of family income from an IV estimator is only valid for the population that was targeted by the reform. The EITC expansion used by Dahl and Lochner (2012) only applied to single parents. This means that we cannot say whether increased parental employment and household income improves child development in general or if it is specific to single-parent households. Similarly, in the paper by Dahl et al. (2014), the marginal group who was likely to experience a different appeal outcome based solely on the leniency of a judge, are likely to have disability symptoms that are neither severe nor mild, and the resources and capabilities to navigate the appeals system. A strong cultural channel for the intergenerational transmission of welfare receipt may be less important for other types of families.

6.5 | Selection on unobservables—Regression discontinuity design

Another popular tool in the evaluation literature is Regression Discontinuity Design (RDD). The RDD approach exploits arbitrary cut-off points or thresholds that exclude or exempt groups of people from a policy. For example, Fisher and Zhu (2019) evaluated new, stricter rules for single parents that only applied if the parent had separated after a specific, arbitrary calendar date. The causal effect of the policy is then derived by comparing the outcomes of the people who separated within a small window (both left and right) of the arbitrary date threshold.

Two key strengths of the RDD approach are that people who lie just below or above an arbitrary threshold are expected to be similar i) to each other, which means that any difference in outcomes is likely directly caused by the policy and ii) to the general population of interest, which means that results can likely be generalized. These advantages distinguish RDD estimators from many DD estimators and IV estimators which make the method particularly promising for future empirical research.

Most recently, an RDD approach has shown that the level of income from a government program directly impacts the health outcomes of children. Ko et al. (2020) implemented an RDD to

show that SSI receipt in the US benefits low-income children by improving their health in the first 8 years of life relative to similar children who just miss out on the payment.

Although the RDD approach is transparent and strong on internal validity principles, as well as external validity, it is not without its critics. The biggest concern is that assignment around the arbitrary threshold can be manipulated. For example, individuals can pull forward their date of separation. Alternatively, the arbitrary thresholds based on date of birth or the timing of birth may still give rise to pre-existing differences between the treated and control groups. This can arise, if, for example, birth-month seasonality factors are independently correlated to the outcome/s of interest.

Not everything proposed as a natural experiment will be convincing. Above, we discussed some of the commonly used methods and the potential shortcomings in the findings based on such approaches. Indeed, findings in the literature on the intergenerational impact of welfare reforms continue to face uncertainty about the magnitude of policy effects and the specific dimensions of a policy that are responsible, as well as the groups that are most and least affected. Nevertheless, the virtues of natural experiments offer us the opportunity to identify the causal effect of policies. Three overarching key insights we have gained using social experiments and natural experiments are (1) that aspects of a parent's life, such as their engagement with employment, are malleable and they can subsequently influence children in profound ways, (2) there are policies which can mitigate any potential negative consequences of parental employment—such as that of high-quality childcare, and (3) policy effects are heterogenous across groups and the child's age of exposure is a key determinant of both the sign and magnitude of effect.

7 | SUMMARY AND CONCLUSION

In this literature review, we consider the effects of four different types of welfare reform that were introduced in various countries over the last four decades with the aim of reducing welfare reliance and which have been empirically studied: i) reductions in the payment level for cash benefits; ii) introduction of activity requirements to access cash benefits; iii) limits on the time for which a cash benefit can be received and iv) the expansion or introduction of in-work benefits/earned tax credits.

Using the framework of a simple model of household production, we discuss how all four types of reform change the budget constraint of affected households, and what changes one should expect in terms of time and income they choose to invest in their children's development.

Any assessment of the effectiveness of welfare reforms depends on the outcome of interest. In the first instance, these relate to the current generation of potential welfare recipients—typically, policy makers may be interested in their level of benefit receipt, employment, and income. If a policy-maker's primary aim is to reduce welfare receipt, this can be achieved by reducing payment levels of cash benefits, by introducing activity requirements, or by limiting the time for which a benefit can be received. This is also a mostly mechanical effect. However, if the primary policy aim is to generate employment, our literature review shows that activity requirements and income tax credits work best in achieving this goal, while pure cuts to payment amounts, as well as time limits, are less effective.

However, this literature review ultimately aimed to assess the effects of welfare reform on child well-being. Overall, the literature shows the introduction or expansion of income tax credits to be among the best policy options. They have been shown to improve child outcomes along a range of dimensions, from health over academic performance to education completion outcomes. In

contrast, reduced payment levels of cash benefits, while beneficial for welfare receipt and employment, appear to have hardly any effect on child development. It is plausible that parents increase their employment in response to the reform just enough to avoid the worst consequences of their reduced income (such as food shortages) but have little chance to generate further resources to spend on improved child outcomes—at best, they can leave them unchanged. Even worse, activity requirements may have negative effects on child outcomes, as they tend to push mothers into unstable, low-quality employment and unreliable childcare situations, so as not to lose access to support completely.

The stronger positive effects of in-work-benefits are quite heterogeneous: they appear to most benefit children from disadvantaged backgrounds (ethnic minorities, children with low-educated mothers, and those in the lowest-income-households). That pattern of heterogeneity further adds to the attractiveness of the policy option.

Some aspects of welfare reform deserve and need further attention: heterogeneous effects by child age, and the mechanisms by which reforms take effect.

First, reform effects have been shown—across the board—to vary with child age. The importance of early childhood experiences on later life outcomes is well-recognized in the social sciences, and there is a long history of studying the effects of policy on young children. "Skills beget skills," and hence investments made early in life tend to have large returns (Heckman, 2006). This review includes many studies that look at the effect of welfare reforms on children of different ages. Typically, the most negative effects of maternal employment are found for very young children, especially below age one, but also up to age three, but where additional income is spent on high-quality early childhood education and care, such negative effects of employment can be overturned or at least mitigated. At the same time, a new emerging theme in the literature is that any analysis of welfare reform should also pay attention to the important developmental phase of adolescence. Adolescents appear to be more negatively affected by a decrease in family income, compared to younger children, and in some studies, they are found to be sensitive to maternal employment especially in families with younger siblings. Any reform must keep in mind that the same policy could affect children of different ages very differently, even within the same family. A lot of research has focused on assessing the outcomes of young children; the outcomes of older children and adolescents need more attention from both policymakers and researchers.

Second, we know relatively little about the exact transmission mechanisms by which reforms affect children's outcomes—and these may also differ by children's age. Often, role model effects could be at play together with income effects. Limited evidence exists that reforms that increase maternal employment without a compensating effect of increased income, are negative for children, which suggests that role model effects are not very powerful. However, most reforms are rolled out in such a way that an unambiguous separation of income effects and direct employment and role modeling effects, is not possible.

Where both channels could be disentangled, evidence points to income effects being more important than role model effects. Also, childcare was found to play an important role: any positive effects of welfare reform on child development appear to hinge on the availability of good quality childcare, and accompanying measures that afforded families the option to access such care. Policy reforms which encourage employment when children are still very young, must be mindful of the alternative childcare options available. The importance of childcare for positive effects of welfare reform on affected children, also goes a long way to explain why adolescents do not appear to reap the same benefits. Better support of adolescents in families affected by welfare reform—such as employment counselling or youth mentoring programs—might be needed to offset any negative effects of welfare reform on adolescents and young adults.

ORCID

Tessa LoRiggio https://orcid.org/0000-0002-5558-7713

NOTES

[1] We denote the one parent as the 'mother', reflecting that lone-parent families are *typically* headed by women, and in multi-parent-families, most non-monetary parenting input is *typically* provided by mothers. This family arrangement is particularly prevalent among families receiving welfare, which explains the focus on mothers and their children in the relevant literature (see section 4). Our simplification ignores other common family structures such as families with two or more parental figures where all make regular parental investments. We also ignore families with same-sex parents or where the lone parent is male and where no mother is present. While there is a trend in all industrialized countries towards more lone parent-families headed by men and towards men increasing their direct provision of childcare (Gimenez-Nadal and Sevilla, 2012), this is heavily concentrated among highly educated and high-earning parents (Guryan et al., 2008).

[2] Personal Responsibility and Work Opportunity Reconciliation Act.

[3] AFDC, Aid to Families with Dependent Children, was the main cash transfer program in the US before it was replaced by TANF, Temporary Assistance for Needy Families, in 1997.

[4] On average, younger children are less negatively impacted. However, there is heterogeneity within the non-adolescent group. For example, the most negative effects of activity requirements were found for very young children, especially below age one, but also up to age three.

REFERENCES

Akee, R., Jones M. R., & Simeonova E. (2020). The EITC and linking data for examining multi-generational effects. No. c14436. *National Bureau of Economic Research*,

Almond, D., Hoynes H. W., & Schanzenbach D W. (2011). Inside the war on poverty: The impact of food stamps on birth outcomes. *The Review of Economics and Statistics*, *93*.2 387–403.

Arni, P., Lalive R., & Van Ours J C. (2013). How effective are unemployment benefit sanctions? Looking beyond unemployment exit. *Journal of Applied Econometrics*, *28*, no. (7), 1153–1178.

Averett, S., & Wang Y. (2018). Effects of higher EITC payments on children's health, quality of home environment, and noncognitive skills. *Public Finance Review*, *46* (4), 519–557.

Avram, S., Brewer M., & Salvatori A. (2018). Can't work or won't work: Quasi-experimental evidence on work search requirements for single parents. *Labour Economics*, *51*, 63–85.

Baker, M., Gruber J., & Milligan K. (2019). The long-run impacts of a universal child care program. *American Economic Journal: Economic Policy*, *11* (3), 1–26.

Bastian, J., & Michelmore K. (2018). The long-term impact of the earned income tax credit on children's education and employment outcomes. *Journal of Labor Economics*, *36* (4), 1127–1163.

Bastian, J. (2020). The rise of working mothers and the 1975 earned income tax credit. *American Economic Journal: Economic Policy*, *12* (3), 44–75.

Becker, G. S. (1965). A theory of the allocation of time. *The Economic Journal*, *75*, No. (299), 493–517.

Becker, G. S. (1981). *A Treatise on the Family*. Cambridge.

Bennett, N. G., Lu H.-H., & Song Y. (2004). Welfare reform and changes in the economic well-being of children. *Population Research and Policy Review*, *23*, no. (5–6), 671–699.

Bergstrom, T. C. (1997). A survey of theories of the Family. *Handbook of Population and Family Economics*, *1*, 21–79.

Bitler, M., Gelbach J. and , & Hoynes H. (2017). Can subgroup-specific mean treatment effects explain heterogeneity in welfare Reform? *The Review of Economics and Statistics*, *99*, no. (4), 683–697.

Bitler, M., Gelbach J. and , & Hoynes H. (2008). Distributional impacts of the self sufficiency project. *Journal of Public Economics*, *92*, no. (3–4), 748–765.

Blank, R. M. (2002). Evaluating welfare reform in the United States. *Journal of Economic Literature*, *40*, no. (4), 1105–1166.

Blank, R. M. (2007). What we know, what we don't know, and what we need to know about welfare reform. *Ann Arbor*, *1001*, 48109-3091.

Blundell, R., & Hoynes H W. (2004). Has 'in-work' benefit reform helped the labor market? *Seeking a Premier Economy: The Economic Effects of British Economic Reforms, 1980–2000*. University of Chicago Press, pp. 411–460.

Blundell, R. (2000). Work incentives and 'in-work' benefit reforms: A review. *Oxford Review of Economic Policy*, *16*, no. (1), 27–44.

Boschman, S., Maas I., Kristiansen M. H., & Cok Vrooman J. (2019). The reproduction of benefit receipt: Disentangling the intergenerational transmission. *Social Science Research*, *80*, 51–65.

Brenøe, A. A., & Lundberg S. (2018). Gender gaps in the effects of childhood family environment: Do they persist into adulthood?." *European Economic Review*, *109*, 42–62.

Brewer, M., Duncan A., Shephard A., & Suarez M J. (2006). Did working families' tax credit work? The impact of in-work support on labour supply in Great Britain. *Labour Economics*, *13*, no. (6), 699–720.

Card, D., & Hyslop D R. (2005). Estimating the effects of a time-limited earnings subsidy for welfare-leavers. *Econometrica*, *73*, no. (6), 1723–1770.

Carneiro, P., & Heckman J J. (2003). Human capital policy. *In Inequality in America: What Role for Human Capital Policies?* edited by J. J. Heckman & A. B. Krueger pp. 77–240. MIT Press.

Chetty, R., Friedman J. N., & Rockoff J E. (2014). Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *American Economic Review*, *104*, no. (9), 2633–79.

Chetty, R., Friedman J. N., & Rockoff J. (2011). New evidence on the long-term impacts of tax credits. *IRS Statistics of Income White Paper*

Cobb-Clark, D. A., Dahmann S., & Gielen A. (2020). The intergenerational effects of requiring unemployment benefit recipients to engage in non-search activities. *Life Course Centre Working Paper Series 2020-18*

Cornelissen, T., Dustmann C., Raute A., & Schönberg U. (2018). Who benefits from universal child care? Estimating marginal returns to early child care attendance. *Journal of Political Economy*, *126* (6), 2356–2409.

Cunha, F., & Heckman J. (2007). The technology of skill formation. *The American Economic Review*, *97*, No. (2), 31–47.

Currie, J. M. (2006). The take-up of social benefits. *Public Policy and the Distribution of Income*. Russell Sage Foundation, pp. 80–148.

Currie, J. (2009). Healthy, wealthy, and wise: Is there a causal relationship between child health and human capital development? *Journal of Economic Literature*, *47* (1), 87–122.

Dahl, G. B., & Gielen A C. (2021). Intergenerational spillovers in disability insurance. *American Economic Journal: Applied Economics*, *13*, no. (2), 116–50.

Dahl, G. B., & Lochner L. (2017). The impact of family income on child achievement: Evidence from the earned income tax credit: Reply. *American Economic Review*, *107* (2), 629–31.

Dahl, G. B., & Lochner L. (2012). The impact of family income on child achievement: Evidence from the earned income tax credit. *American Economic Review*, *102*, no. (5), 1927–56.

Dahl, G. B., Kostøl A. R., & Mogstad M. (2014). Family welfare cultures. *The Quarterly Journal of Economics*, *129*, no. (4), 1711–1752.

Danziger, S. K., Danziger S., Seefeldt K. S., & Shaefer H. L. (2015). From welfare to a work-based safety net: An incomplete transition. *Journal of Policy Analysis and Management*, *1* (35), 231–238.

Dave, D. M., Corman H., Kalil A., Schwartz-Soicher O., & Reichman N. (2021). Intergenerational effects of welfare reform: Adolescent delinquent and risky behaviors. *Economic Inquiry*, *59* (1), 199–216.

Dench, D., & Joyce T. (2020). The earned income tax credit and infant health revisited. *Health Economics*, *29* (1), 72–84.

Deshpande, M. (2016). Does welfare inhibit success? The long-term effects of removing low-income youth from the disability rolls. *American Economic Review*, *106*, no. (11), 3300–3330.

Duncan, G. J., & Brooks-Gunn J. (2000). Family poverty, welfare reform, and child development. *Child Development*, *71*, no. (1), 188–196.

Duncan, G. J., & Chase-Lansdale P. L. (2001). Welfare reform and child well-being. *The New World of Welfare*. Brookings Institution Press, pp. 391–417.

Duncan, G. J., Morris P. A., & Rodrigues C. (2011). Does money really matter? Estimating impacts of family income on young children's achievement with data from random-assignment experiments. *Developmental Psychology*, *47*, no. (5), 1263.

East, C. N. (2020). The effect of food stamps on children's health evidence from immigrants' changing eligibility. *Journal of Human Resources*, *55* (2), 387–427.

Eissa, N., & Hoynes H W. (2006). Behavioral responses to taxes: Lessons from the EITC and labor supply. *Tax Policy and the Economy*, *20*, 73–110.

Eissa, N., & Hoynes H W. (2004). Taxes and the labor market participation of married couples: The earned income tax credit. *Journal of Public Economics*, *88*, 1931–1958.

Eissa, N., & Liebman J B. (1996). Labor supply response to the earned income tax credit. *The Quarterly Journal of Economics*, *111*, no. (2), 605–637.

Eissa, N., Kleven H. J., & Kreiner C T. (2008). Evaluation of four tax reforms in the United States: Labor supply and welfare effects for single mothers. *Journal of Public Economics*, *92*, no. (3–4), 795–816.

Felfe, C., Nollenberger N., Rodríguez-Planas N. (2015). Can't buy mommy's love? Universal childcare and children's long-term cognitive development. *Journal of Population Economics*, *28* (2), 393–422.

Fisher, H., & Zhu A. (2019). The effect of changing financial incentives on repartnering. *The Economic Journal*, *129* (623), 2833–2866.

Fok, Y. K., & McVicar D. (2013). Did the 2007 welfare reforms for low income parents in Australia increase welfare exits? *IZA Journal of Labor Policy*, *2*, no. (1), 3.

Foster, E. M. (2002). How economists think about family resources and child development. *Child Development*, *73*, No. (6), 1904–1914.

Fuller, B., Kagan S. L., Caspary G. L., & Gauthier C A. (2002). Welfare reform and child care options for low-income families. *The Future of Children*, 97–119.

Gassman-Pines, A., & Bellows L. (2015). SNAP recency and educational outcomes. *Available at SSRN 2701380*

Gelber, A. M., & Mitchell J W. (2011). Taxes and time allocation: Evidence from single women and men. *The Review of Economic Studies*, *79*, no. (3), 863–897.

Gibson, C. M. (2003). Privileging the participant: The importance of sub-group analysis in social welfare evaluations. *American Journal of Evaluation*, *24* (4), 443–469.

Gimenez-Nadal, J. I., & Sevilla A. (2012). Trends in time allocation: A cross-country analysis. *European Economic Review*, *56* (6), 1338–1359.

Gong, X., & Breunig R. (2014). Channels of labour supply responses of lone parents to changed work incentives. *Oxford Economic Papers*, *66*, no. (4), 916–939.

Gregory, C. A., & Deb P. (2015). Does SNAP improve your health?. *Food Policy*, *50*, 11–19.

Grogger, J., & Michalopoulos C. (2003). Welfare dynamics under time limits. *Journal of Political Economy*, *111*, no. (3), 530–554.

Grogger, J., & Karoly L A. (2005). Welfare reform, work and wages: A summary of the US experience. *CESifo DICE Report*, *3* (2), 8–12.

Grogger, J., & Karoly L A. (2009). The effects of work-conditioned transfers on marriage and child well-being: A review. *The Economic Journal*, *119*, no. (535), F15-F37.

Grogger, J. (2002). The behavioral effects of welfare time limits. *American Economic Review*, *92*, no. (2), 385–389.

Grogger, J. (2003). The effects of time limits, the EITC, and other policy changes on welfare use, work, and income among female-headed families. *Review of Economics and Statistics*, *85*, no. (2), 394–408.

Grogger, J. (2004). Time limits and welfare use. *Journal of Human Resources*, *39*, no. (2), 405–424.

Guryan, J., Hurst E., & Kearney M. (2008). Parental education and parental time with children. *Journal of Economic perspectives*, *22* (3), 23–46.

Hartley, R. P., Lamarche C., & Ziliak J P. (2017). Welfare reform and the intergenerational transmission of dependence.. *Institute for the Study of Labor (IZA)*, No. (10942),

Havnes, T., & Mogstad M. (2015). Is universal child care leveling the playing field? *Journal of Public Economics*, *127*, 100–114.

Havnes, T., & Mogstad M. (2011). No child left behind: Subsidized child care and children's long-run outcomes. *American Economic Journal: Economic Policy*, *3* (2), 97–129.

Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, *312* (5782), 1900–1902.

Heckman, J., Pinto, R., & Savelyev, P. (2013). Understanding the mechanisms through which an influential early childhood program boosted adult outcomes. *American Economic Review*, *103*(6), 2052–86.

Herbst, C. M. (2017). Are parental welfare work requirements good for disadvantaged children? Evidence from age-of-youngest-child exemptions. *Journal of Policy Analysis and Management*, *36* (2), 327–357.

Hoynes, H. W., & Patel A J. (2018). Effective policy for reducing poverty and inequality? The Earned Income Tax Credit and the distribution of income. *Journal of Human Resources*, *53*, no. (4), 859–890.

Hoynes, H. W., & Schanzenbach H W. (2009). Consumption responses to in-kind transfers: Evidence from the introduction of the food stamp program. *American Economic Journal: Applied Economics*, *1* (4), 109–39.

Hoynes, H. W., & Schanzenbach D W. (2018). Safety nets investments in children. *Brookings Papers on Economic Activity*, *49* (1), (Spring) 89–150.

Hoynes, H., Schanzenbach D. W., & Almond D. (2016). Long-run impacts of childhood access to the safety net. *American Economic Review*, *106*, no. (4), 903–34.

Hoynes, H., Miller D., & Simon D. (2015). Income, the earned income tax credit, and infant health. *American Economic Journal: Economic Policy*, *7*, no. (1), 172–211.

Hsueh, J., & Gennetian L A. (2011). Welfare policies and adolescents: Exploring the roles of sibling care, maternal work schedules, and economic resources. *American Journal of Community Psychology*, *48*, No. (3–4), 322–340.

James-Burdumy, S. (2005). The effect of maternal labor force participation on child development. *Journal of Labor Economics*, *23*, No. (1), 177–211.

Johnson, R. C., Kalil A., & Dunifon R E. (2012). Employment patterns of less-skilled workers: Links to children's behavior and academic progress. *Demography*, *49* (2), 747–772.

Kalil, A., Dunifon R., & Danziger S K. (2001). Does maternal employment mandated by welfare reform affect children's behavior? *For Better or for Worse: Welfare Reform and Children's Well-Being*, 154–178.

Ko, H., Howland R., & Glied S. (2020). The effects of income on children's health: Evidence from supplemental security income eligibility under New York State medicaid. *NBER Working Paper*, w26639

Kottelenberg, M. J., & Lehrer S F. (2017). Targeted or universal coverage? Assessing heterogeneity in the effects of universal child care. *Journal of Labor Economics*, *35* (3), 609–53.

Loeb, S., Fuller B., Kagan S. L., & Carrol B. (2004). Child care in poor communities: Early learning effects of type, quality, and stability. *Child Development*, *75*, no. (1), 47–65.

Low, H., Meghir C., Pistaferri L., & Voena A. (2020). Marriage, labor supply and the dynamics of the social safety net. Working paper,

Manoli, D., & Turner N. (2018). Cash-on-hand and college enrollment: Evidence from population tax data and the earned income tax credit. *American Economic Journal: Economic Policy*, *10* (2), 242–71.

Maxfield, M. (2013). The effects of the earned income tax credit on child achievement and long-term educational attainment. *Michigan State University Job Market Paper*,

Meyer, B. D. (2002). Labor supply at the extensive and intensive margins: The EITC, welfare, and hours worked. *American Economic Review*, *92*, no. (2), 373–379.

Micklewright, J., & Nagy G. (2010). The effect of monitoring unemployment insurance recipients on unemployment duration: Evidence from a field experiment. *Labour Economics*, *17*, no. (1), 180–187.

Moffitt, R. A., Phelan B. J., & Winkler A E. (2020). Welfare rules, incentives, and family structure. *Journal of Human Resources*, *55* (1), 1–42.

Morris, P. A., Huston A., Duncan G., Crosby D., & Bos J. (2001). *How Welfare and Work Policies Affect Children: A Synthesis of Research*. Manpower Demonstration Research Corporation.

Morris, P., & Michalopoulos C. (2003). Findings from the Self-Sufficiency Project: Effects on children and adolescents of a program that increased employment and income. *Journal of Applied Developmental Psychology*, *24*, no. (2), 201–239.

Morris, P., Duncan G. J., & Clark-Kauffman E. (2005). Child well-being in an era of welfare reform: The sensitivity of transitions in development to policy change. *Developmental Psychology*, *41*, no. (6), 919.

Morris, P., Gennetian L., Duncan G., & Huston A. (2009). How welfare policies affect child and adolescent school performance: Investigating pathways of influence with experimental data. *Welfare Reform and its Long-Term Consequences for America's Poor*. Cambridge University Press pp. 255–289.

Neumark, D., Asquith B., & Bass B. (2020). Longer-run effects of anti-poverty policies on disadvantaged neighborhoods. *Contemporary Economic Policy*, *38* (3), 409–434.

Peisner-Feinberg, E. S., & Burchinal M. R. (1997). Relations between preschool children's child-care experiences and concurrent development: The cost, quality, and outcomes study. *Merrill-Palmer Quarterly (1982-)*, 451–477.

Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., & Yazejian, N. (2001). The relation of preschool child-care quality to children's cognitive and social developmental trajectories through second grade. *Child Development*, *72*(5), 1534–1553.

Petrongolo, B. (2009). The long-term effects of job search requirements: Evidence from the UK JSA reform. *Journal of Public Economics*, *93*, no. (11–12), 1234–1253.

Ribar, D. C. (2014). How to improve participation in social assistance programs. *IZA World of Labor*,

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 & Medicine*, *70* (12), 2052–2060.

Teitler, J. O., Reichman N. E., & Nepomnyaschy L. (2004). Sources of support, child care, and hardship among unwed mothers, 1999–2001. *Social Service Review*, *78*, no. (1), 125–148.

Usdansky, M. L., Gordon R. A., Wang X., & Gluzman A. (2012). Depression risk among mothers of young children: The role of employment preferences, labor force status and job quality. *Journal of Family and Economic Issues*, *33* (1), 83–94.

Van den Berg, G. J., & Vikström J. (2014). Monitoring job offer decisions, punishments, exit to work, and job quality. *The Scandinavian Journal of Economics*, *116*, no. (2), 284–334.

Vandell, D. L. (2004). Early child care: The known and the unknown. *Merrill-Palmer Quarterly (1982-)*, 387–414.

Zaslow, M. J., Moore K. A., Brooks J. L., Morris P. A., Tout K., Redd Z. A., & Emig C A. (2002). Experimental studies of welfare reform and children. *The Future of Children*, 79–95.

How to cite this article: Broadway, B., LoRiggio, T., Ryan, C., & Zhu, A. (2021). Literature review on the impact of welfare policy design on children and youth. *Journal of Economic Surveys*, 1–32. https://doi.org/10.1111/joes.12467