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A Developmental Perspective on the Link Between Parents' Employment and Children's Obesity

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Abstract

Despite public concerns about the negative implications of the increased labor force participation of mothers for child development, decades of research have revealed few risks and some benefits. One potential risk—a consistently observed association between maternal employment and childhood obesity— offers a window into how some dimensions of family health may be undermined by work in an economic and policy context that is not family friendly. The purpose of this article is to identify ways that a developmental perspective can enrich the literature on how children's weight may be related to the work experiences of both mothers and fathers across diverse populations, a literature that heretofore has been dominated by economic and demographic perspectives, focused almost solely on women, and largely ignored racial/ethnic variation. After reviewing the extant literature, we put forward a conceptual model that uses ecological and developmental insights to identify the mechanisms by which parents' employment might matter to children's weight and discuss this model in the context of the contemporary landscape of family policy.

Keywords

child development; maternal employment; obesity; parenting; paternal employment

The surge of mothers into the paid labor force in the late 20th century fueled intense debates about their children. Yet, research has revealed that, except in difficult circumstances (e.g., irregular work at low pay) and when children are young, maternal employment does not have a generalized effect on children (Bianchi & Milkie, 2010; Brooks-Gunn, Han, & Waldfogel, 2010; Goldberg, Prause, Lucas-Thompson, & Himsel, 2008). Consequently, research inquiry has shifted broad risks of mothers' paid work to specific effects, such as children's weight. Historically, the rise in childhood obesity coincided with the increase in maternal employment, and careful analysis of these cooccurring trends suggests that mothers' paid work does raise the odds that their children will be obese (Anderson, Butcher, & Levine, 2003). This research has been conducted primarily by economists and

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demographers with less input from developmental scientists. As a result, it is strong on causal inference and generalizability but weaker on questions of why and how.

Here, we review the literature on maternal employment and children's weight and present a conceptual model that draws on insights from developmental science to unpack this association. In doing so, we focus on *both* parents' employment. Our goal is not to be gender neutral but instead to compare mothers and fathers in different family situations (single or partnered, same-sex or opposite sex partnerships). We recognize that mothers and fathers often do not have the same experiences at work and home and that tensions between these two contexts may be felt more acutely by mothers (Nomaguchi & Milkie, 2015), but we also argue that understanding such differences requires attention to both mothers and fathers.

Our conceptual model emphasizes mechanisms within the family system— how internal family dynamics fundamental to the ecology of physical development, such as parents' management of children's nutrition and activity and the socioemotional components of eating, are disrupted when parents work outside the home. It also highlights periods in which children are particularly sensitive to work-related constraints on parents' time and resources and in which weight is more likely to change in response to the environment (Nader et al., 2006; Waldfogel, 2006). Notably, given racial/ethnic and socioeconomic differences in both maternal employment and children's weight, our model emphasizes potential heterogeneity in the links between the two across diverse populations. This developmentally oriented model can make sense of extant findings about maternal employment and children's obesity while setting the stage for future research by psychologists that can promote understanding of how both parents' work outside the home matters to children in the short and long term. With this focus on what is going on inside the family, however, comes the risk of "blaming the parent," a mentality underlying much of the research on mothers and children. Instead, we seek to show how mothers, fathers, and children are influenced by the constraints imposed on families by a labor force and associated work–family policies in the United States that are unfriendly to rearing children. Consequently, we use the conceptual model as a starting point for a discussion of the need for macrolevel policy changes.

What We Know About Maternal Employment and Childhood Obesity

In 2013, 17% of U.S. children were obese, defined as having a body mass index (BMI; weight in kilograms divided by height in meters squared) greater than or equal to the 95th percentile for their age, with an even larger percentage using the lower threshold of overweight of the 85th percentile (Ogden, Carroll, Kit, & Flegal, 2014; Ogden & Flegal, 2010). As shown in Figure 1, the prevalence of obesity among children has risen dramatically in recent decades (Cawley, 2015). Even taking into account the problems of using BMI to measure obesity (Himes, 2009), these statistics clearly suggest that many more children are obese now than in the past.

Childhood obesity is a risk factor for adult obesity, which can lead to cardiovascular disease, some cancers, diabetes, and functional limitations (Must & Strauss, 1999). Early obesity also has negative implications on its own. In adolescence, for example, it is associated with

negative social, emotional, and academic outcomes (Cawley, 2001; Crosnoe, Frank, & Mueller, 2008). Given the sharp racial/ethnic disparities in childhood obesity (e.g., significantly higher rates among African American and Latino/a children than the general population), childhood obesity can contribute to broader inequalities in health (Jin & Jones-Smith, 2015; Ogden et al., 2014). Notably, as childhood obesity rose, so did maternal employment. As shown in Figure 2, the percent of mothers in the labor force increased from below 50% to over 75% between 1976 and 2013, even as paternal employment remained steady (Bureau of Labor Statistics, 2015, 2014). Interestingly, some racial/ethnic groups (e.g., African Americans) with high rates of childhood obesity also have above-average rates of female labor force participation, but others (e.g., Latino/as) do not (Bureau of Labor Statistics, 2015, 2014; Ogden et al., 2014).

The fact that both maternal employment and child obesity increased in recent decades, especially in certain historically disadvantaged populations, spurred research examining linkages between them. Of course, the co-occurrence of two trends does not mean that one has caused the other. Indeed, a challenge is to identify a causal path from maternal employment to child health. Lacking the ability to conduct an experimental analysis, scholars must instead address issues of endogeneity in survey research. Mothers who work, or those who work more/fewer hours, likely differ in a variety of ways from those who do not, often in ways that might affect (negatively or positively) family dynamics and children's weight. Studies of maternal employment and children's weight are biased if they do not control for these selection factors.

To better approximate a causal effect of maternal employment on children's BMI, researchers estimate models in which an external factor, or instrument, is used to predict maternal employment, which then is linked to child BMI; models examining changes over time in individual children's experiences of maternal employment and BMI; propensity score models indexing factors associated with maternal employment that then predict children's BMI; and sibling models that separate between- and within-family effects of maternal employment. After a thorough search, we identified nine developmental, economic, or sociological studies since 2000 that used quasiexperimental methods to examine the link between maternal employment and children's BMI in a large longitudinal sample. We chose the year 2000 as our starting point to capture work utilizing both the most cutting-edge methods as well as the most recent data, including the large increased in obesity that occurred in the 1990s. Some studies (Anderson et al., 2003; Bishop, 2011; Datar, Nicosia, & Shier, 2014; Greve, 2011) used state or local unemployment rates as instruments. For example, Anderson and colleagues (2003) found that, in states with higher unemployment rates, maternal employment was lower and children's BMI was reduced. Others compared siblings to show that the BMI of a sibling experiencing maternal employment usually exceeded the BMI of one who did not (Anderson et al., 2003; Bishop, 2011; Chia, 2008; Ruhm, 2008; Ziol-Guest, Dunifon, & Kalil, 2013). Still, others followed children to show that their BMI tended to rise during periods when their mothers increased their employment (Morrissey, Dunifon, & Kalil, 2011; Scholder, 2008).

Seven studies in our review reported a positive association between maternal employment and children's BMI, indicating that the probability that a child was obese increased by 1– 4

percentage points for each additional 10 hr per week that her or his mother worked in the paid labor force (Anderson et al., 2003; Chia, 2008; Miller, 2011; Ruhm, 2008; Morrissey et al., 2011; Datar et al., 2014; Ziol-Guest et al., 2013). Anderson and colleagues (2003) estimated that increases in maternal employment accounted for 11–18% of the increase in child obesity. Some evidence suggests that such an increase is stronger for mothers working full-time (Ruhm, 2008). Two studies, both conducted outside the United States, found contradictory results. One Australian study reported a negative association between maternal employment and children's body weight (Bishop, 2011), while a Danish study reported null effects (Greve, 2011).

Importantly, the influence of mothers' work on children's BMI may be stronger during certain periods of a child's life. The study by Morrissey and colleagues (2011) addressed this possibility, showing that the association between maternal employment and children's BMI was strongest when children were in fifth and sixth grades (relative to third grade). A U.K. study showed that full-time maternal employment during middle childhood (age 7), but not earlier or later, predicted overweight in adolescence (Scholder, 2008). These two studies only examined a narrow age range, however, and could not identify trends over childhood and adolescence.

To summarize, then, the preponderance of evidence suggests a positive association between maternal employment and children's BMI in the United States and United Kingdom but less so in other countries, perhaps due to country-level differences in policy regimes that we will discuss later. Additional evidence suggests that this link could be stronger among socioeconomically advantaged mothers and those working full-time. What is lacking is an understanding of the mechanisms underlying these associations, how they extend to fathers, and how they vary across diverse segments of the population (e.g., by race/ethnicity) and diverse family contexts (e.g., by family structure and community) as well as how such patterns evolve developmentally.

How to Move the Field Forward

Setting Up a Conceptual Model

As our review makes clear, most research in this area focuses on women. Indeed, the dramatic influx of mothers into the labor force precipitated the extensive study of this topic. Partly, this focus is due to the fact that the high rate of paternal employment has not changed over recent decades (Bureau of Labor Statistics, 2015). Additionally, there is ample evidence that mothers, even when working outside of the home, continue to play the key role of caregivers and managers of their children's time, spending more time on child care and housework than fathers, even in dual-career households (Bianchi, Robinson, & Milkie, 2006). Although employed mothers perform fewer household and child-related tasks than mothers who are not employed, this reduction is not offset by increased time contributions at home from partners (Cawley & Liu, 2012). Consequently, mothers' employment is particularly salient for children.

At the same time, research on parental employment and child wellbeing need not focus only on mothers. The conceptual model below is relevant to both parents in the household and

highlights the ways in which they each influence children's development. Although to date evidence of a link between paternal employment and child obesity is weak (see Hawkins, Cole, & Law, 2008; Morrissey, 2013; Phipps, Lethbridge, & Burton, 2006; Ruhm, 2008), comparing maternal and paternal employment is valuable. Such a comparison could shed light on the different ways that mothers' and fathers' experiences outside the home can alter child rearing ecology and family dynamics (i.e., gender differences in the links between paternal employment and the proposed mediators) and on potential variability in the importance of mothers' and fathers' work across diverse groups (i.e., gender differences in the conditioning effects of proposed moderators). For example, fathers' work could primarily affect children's basic circumstances while mothers' work influences socioemotional processes within families; in addition, the balance between mothers' work and fathers' work could be greater in racial/ ethnic groups with longer traditions of less gendered divisions of household labor. By putting forth a model that considers both mothers and fathers, we hope to move the literature forward toward thinking about employment and child rearing as negotiated within families in gendered ways (Bianchi & Milkie, 2010).

This inclusion of mothers and fathers is significant in another way, given the recent legalization of same-sex unions in the United States and other developed countries. New research indicates that individuals' gender may be less important to their health than the gender of their partners. Thus, understanding how someone functions in a family depends not just on being a woman but whether a woman is partnered with a man or woman (and vice versa; Umberson & Kroeger, 2016). Future research on parental employment must take into account how the role of each parent might vary according to the gender composition of partners in two-parent families.

Turning to children's weight, research shows that, although it has a genetic component, it is also responsive to the environment. According to Bass and Turek (2005), "… weight is controlled much like a thermostat, with fluctuations around a programmed set point" (p. 15). Genetics, prenatal conditions, and the early environment create the set point, and the fluctuations are then a function of direct environmental influences and their interactions with genetic traits. Parents' employment is part of the complex and dynamic constellation of factors that contribute to those fluctuations during childhood and adolescence. How might parents' employment influence children's weight? The top panel of Figure 3 depicts a rudimentary pathway between parents' employment and children's weight based on extensive research, primarily in the fields of pediatrics and public health. To describe this pathway, we work backward through its pieces.

The core component of weight gain is an imbalanced ratio of calories consumed to calories expended, which has three proximate determinants: diet, activity, and sleep. The first two have received more attention (Chen, Beydoun, & Wang, 2008). Diet is the clearest marker of calories consumed, and, in general, the more calories consumed the greater the odds of weight gain, which can lead to obesity (Anderson & Butcher, 2006; Klesges, Klesges, Eck, & Shelton, 1995). Activity is the clearest marker of calories expended, with greater expenditures relative to dietary in-take decreasing the odds of weight gain and obesity (Anderson & Butcher, 2006; Ebbeling, Pawlak, & Ludwig, 2002). Some factors associated with weight gain connect diet and activity. For example, extensive TV viewing is associated

with weight gain for many reasons, including its potential to increase unhealthy eating (due to boredom and the influence of advertising) and to displace physical activity (Dietz & Gortmaker, 1985; Vandewater, Shim, & Caplovitz, 2004). Inadequate sleep has recently gained attention as a risk factor for obesity, with evidence that it leads to significant weight gain over time, especially during childhood and adolescence (Landhuis, Poulton, Welch, & Hancox, 2008; Nielsen, Danielsen, & Sorenson, 2008; Snell, Adam, & Duncan, 2007; Van Cauter & Knutson, 2008). These sleep effects also connect diet and activity, as inadequate sleep seems to increase appetite, reduce activity, and interfere with metabolic pathways that regulate the balance between caloric consumption and expenditure (Patel & Hu, 2008).

Overeating (especially unhealthy foods), inactivity, and inadequate sleep, therefore, contribute to weight gain and lead to obesity. Studies—again, primarily outside of developmental science— have shown that each is associated with aspects of maternal employment such as work status or hours (Brown, Broom, Nicholson, & Bittman, 2010; Fertig, Glomm, & Tchernis, 2009; Kalil, Dunifon, Crosby, & Su, 2014; Hofferth & Sandberg, 2001). When mothers are employed outside the home, therefore, their children tend to have profiles of diet, activity, and sleep related to weight gain and obesity. This connection may be particularly the case among historically marginalized populations (e.g., African Americans and Latino/as), which tend to have higher levels of the behavioral risk factors for obesity, including inadequate sleep (Dixon, Peña, & Taveras, 2012).

How this pathway might work for fathers is unclear, but we use it to build a conceptual model informed by developmental science, particularly the relational developmental systems metatheory (Lerner, Lewin-Bizan, & Warren, 2010). This metatheory, which groups together human ecology, developmental systems, and life course perspectives, emphasizes the adaptation of children to their changing contexts (especially proximate ecologies) and the developmental systems inside their bodies. Thus, we explore mechanisms that are rooted in the dynamic and transactional interpersonal processes in and around the home that connect parents to children in everyday family life. In other words, we highlight how parents' employment may shape a child's transactions within and around the family in ways that shift the balance among diet, activity, and sleep to promote or reduce weight gain. Drawing on another component of relational developmental systems, we emphasize how this transactional process is likely to follow a developmental gradient, shifting in important ways as children age and control over their lives shifts from parent to child. The bottom panel of Figure 3 depicts this conceptual model, which expands the pathway through the insights of the relational developmental systems perspective.

Mediation in the Conceptual Model

Turning to the conceptual model, Figure 3 includes three layers of mediation linking parents' employment to children's weight. First, the characteristics of work rather than work per se likely matter (see Box A in Figure 3). A key contribution of developmental psychologists and family sociologists to the work–family literature is the increased attention to the kind of work that family members, such as mothers, do (Perry-Jenkins & MacDermid, 2013). Different types of jobs come with different demands on time (e.g., overall hours, spillover into family time), different schedules (e.g., standard, nonstandard, flexible), highly

variable conditions (e.g., enabling autonomy, involving conflict), and a diversity of supports (e.g., health insurance, child care). Thus, treating maternal or paternal employment as a multidimensional construct rather than as a unitary status could provide some traction in this line of research (Dunifon, Kalil, Crosby, Su, & Deleire, 2013; McClendon, Kuo, & Raley, 2014; Perry-Jenkins & MacDermid, 2013; Presser, 2005).

Second, such work characteristics organize parents' daily lives to affect how they allocate time and resources (Boxes A to B in Figure 3). Child rearing, household tasks, and other family responsibilities require time, effort, and emotional engagement. These investments can be drained by work's direct (e.g., fulfilling work duties) and indirect (e.g., stressing about work) demands, especially when jobs have nonstandard schedules or are unstable in other ways (Presser, 2005). Indeed, the job characteristics described above are associated with various labor-intensive parts of family life, such as housework (Bianchi, 2000; Perry-Jenkins & MacDermid, 2013; Presser, 1989). Although some jobs disrupt family life and parenting (i.e., work– family conflict), others have conditions that support family roles and responsibilities (i.e., work–family facilitation). For example, jobs that afford people more opportunities for autonomy and decision-making might allow them to feel and be more efficacious as parents (Dierdorff & Ellington, 2008; Ford, Heinen, & Langkamer, 2007; Grzywacz & Butler, 2005; Johnson, Kalil, & Dunifon, 2012). Additionally, employment can expand social networks (Repetti, Matthews, & Waldron, 1989; Wrzus, Hänel, Wagner, & Neyer, 2013), potentially benefitting mental health and parenting.

Third, the time and resources that parents bring to family life that may be supported or disrupted by work are likely associated with specific dimensions of parenting that have implications for the health of family members (Boxes C through E in Figure 3). Here, parents' daily management of diet, activity, and sleep inside the home is key. Despite the motivations that most parents have to create a healthy environment for children, some are constrained from consistently doing so by external forces, such as time demands that limit shared family activities (including family meals) or the ability to transport children to physical activities, a lack of resources that limit the purchase of nutritious foods, or emotional stressors that distract from parenting goals (Fiese & Hammons, 2013; Fiese & Jones, 2012). For example, employed mothers, compared to nonemployed mothers, spend less time in meal preparation and rely more heavily on less nutritious fast foods or prepared foods (Cawley & Liu, 2012; Powell & Nguyen, 2013; Ziol-Guest, DeLeire, & Kalil, 2006). Additionally, the time constraints imposed by parents' employment may mean that children with working parents spend more time watching TV than others, perhaps because they are more often in self-care or in the care of someone who supervises their TV consumption to a lesser extent than would their mother or father (Fertig et al., 2009). Finally, some aspects of maternal employment, such as long hours and nonstandard schedules, can also disrupt children's sleep patterns, raising the risk of obesity (Hofferth & Sandberg, 2001; Kalil et al., 2014; Patel & Hu, 2008).

Also important is parents' monitoring of children outside the home, such as at school and in the community, including peers' health norms. Monitoring is also a question of time and availability. To the extent that parents' work disrupts monitoring, it may lead to weight gain for children in unhealthy peer environments (Crosnoe & Cavanagh, 2010; Crouter,

MacDermid, McHale, & Perry-Jenkins, 1990; Steinberg, 1986). Parents must also devote time and energy to the socioemotional needs of their children so that they will overcome challenges to their mental health and social wellbeing and, importantly, not develop unhealthy strategies for dealing with these challenges (e.g., overeating, inactivity). The demands of work may interfere with parents' abilities to perform this parenting function (Gundersen, Lohman, Garasky, Stewart, & Eisenmann, 2008; Mc-Curdy, Gorman, & Metallinos-Katsaras, 2010).

Moderation in the Conceptual Model

Moving beyond mediating pathways, our model includes two dimensions of moderation of the effects of parents' work on children's weight. The first is about children. Specifically, the links among parental time and resources, parenting processes, and child behavior may change as children develop (Box F in Figure 3). Evidence suggests that the link between maternal employment and children's weight is stronger for younger children, but the ways in which child age moderates the mechanisms underlying this link need to be elucidated. After all, parents' involvement in children's lives evolves over time. Most importantly, children gradually desire and gain more control over their lives, increasingly make their own decisions, and navigate social contexts outside the purview of their parents. As such, developmentally appropriate parenting gradually shifts accordingly to more indirect methods. In other words, parents grant autonomy as children demonstrate the maturity to handle it, and children's enactment of autonomy facilitates more maturation (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Steinberg, 2001). With this shift, the impact of work on parents' regulation of food, activities, and sleep may fade as children age. Yet, as children grow up and become more autonomous, parents' work could increasingly influence how they manage young people's lives outside the home, particularly with handling peers. Thus, just as the links between parental employment and children's obesity change as children age, the reasons why they are linked may also change. Our conceptual model, therefore, emphasizes the value of showing that a specific mechanism like parenting behavior may differentially link parental employment to children's obesity across developmental time.

The second layer of moderation is about parents and the concentric circles of social context in which they are embedded. Specifically, the unfolding transactional processes within proximate contexts captured in Boxes A–F in Figure 3 can be contextualized within more structural and organizational aspects of social life (Box G in Figure 3).

As a starting point, consider stratification by race/ethnicity and socioeconomic status. The characteristics of families situate them within these stratification systems, affecting their options, challenges, and supports. For example, African American children are more likely to have employed mothers and to be obese than many other racial/ethnic groups, but are the links among parental work, the focal mediators, and children's obesity stronger in this group? Given how little attention has been paid to race/ethnicity as a moderator, we do not know the answer to this question. Yet, research clearly demonstrates that, compared to Whites, African American parents have lower quality jobs with fewer benefits and face more stressors and barriers (e.g., discrimination, segregation) in and out of their jobs. Moreover,

although such families have strong networks of kin and nonkin support, they often have lower access to institutional support and services (Spencer, 2006; Simons et al., 2002). Consequently, African American children are more likely to be exposed to the kinds of parental work that could facilitate weight gain and less likely to have the types of resources that might block the mediational chain connecting parental employment to obesity from unfolding. This same phenomenon could apply to another large minority group, Latino/as, that has lower rates of female labor force participation but higher-than-average rates of child obesity (Bureau of Labor Statistics, 2014; Ogden et al., 2014).

A big factor in these racial/ethnic disparities is income. Income is not a clear mediator of links between parental employment and children's obesity. Parental employment— even in low-wage jobs—increases family income, but income does not predict obesity (Cawley, 2015; Gennetian & Miller, 2002). Still, evidence does suggest a moderating role of income, with the positive link between parental employment and children's obesity stronger in higher income families. Such families likely have more advantages overall, so that they have more to lose when parents' jobs— often high-pressure and time-intensive— disrupt family life (Duncan, Huston, & Weisner, 2007; Lombardi & Coley, 2013; Ruhm, 2008). The fact that racial/ethnic minority families tend to be lower income while income strengthens the link between parental employment and children's obesity means that the moderating role of income works differently—and perhaps in opposite directions across diverse racial/ethnic groups.

Turning to the other four adult-focused moderators in Figure 3, each is included because extant evidence suggests that it could condition the pathways from A through C. First, the human capital that parents develop through schooling can provide practical and social psychological resources for parenting (e.g., facilitating self-efficacy, developing critical thinking skills) that enable better management of competing work and family demands (Augustine, 2014; Mirowsky & Ross, 2003). Second, aspects of household structure, such as how many other children and adults reside in the home, can increase demands on time, energy, and resources but also provide extra support as parents attempt to meet their parenting goals amid the constraints of paid employment (Augustine, 2014). Third, support networks outside the home (kin, friends, and neighbors) can provide both socioemotional support and practical assistance to parents in need, helping to support their children's development even in the face of stressors and obstacles (Ryan, Kalil, & Leininger, 2009; Wilson, 1989). Fourth, some communities are better resourced and organized than others, even controlling for socioeconomic composition, and are better equipped to support working parents. Collective efficacy—the degree to which residents come together to control what happens in their neighborhood—is one example of such a community characteristic (Sampson, Raudenbush, & Earls, 1997). Fifth, when parents live and work in policy contexts that reduce the strain between home and work, they can better promote their children's health. The significance of the policy context is even more pronounced considering social norms that society places on mothers and on fathers that constrain how they divide their time across settings. The role of policy in this conceptual model is the area that we turn to next.

Implications for Policy and Intervention

This review and conceptual model suggest implications in three specific policy areas, all of which could help to explain the differing results of studies on maternal employment and children's obesity across countries. We have intentionally focused on more macro policies affecting the workplace and families on the population level rather than on interventions targeting the internal dynamics of individual families. This choice is in line with our goal of moving the field of research past the underlying (if not necessarily conscious) theme of much existing research that parents are failing or that families need to be fixed. Instead, our focus is on changing the work–family landscape so that individual families can do what they want and need. We describe each of these three policy areas within the United States context and how they differ in other countries before bringing them all together in the context of the conceptual model.

We first consider parental leave, which influences the time and energy that parents can devote to establishing healthy household routines early in a child's life and also help them juggle child rearing with other family responsibilities (e.g., caring for an ill parent). The United States is unique among developed countries in that it does not have a paid leave program, despite evidence that such policies benefit parents (Glass & Riley, 1998; Waldfogel & McLanahan, 2011). The Family and Medical Leave Act of 1993 provides 12 weeks of unpaid leave, but only 20% of new mothers are eligible (Council of Economic Advisors, 2014). As a point of comparison, Denmark provides 52 weeks of paid parental leave. In recent years, individual American states have enacted paid leave policies—California was the first to do so in 2004 (6 weeks of leave), followed by New Jersey in 2008 (6 weeks), Rhode Island in 2014 (4 weeks), and New York in 2016 (12 weeks; Council of Economic Advisors, 2014).

Second, the availability and affordability of child care warrants attention because, when high-quality, it provides a regular extrafamilial context for healthy child development—including eating, activity, and sleep. The United States stands out among its peers in not providing public child care. Again, a useful comparison is Denmark, which has a tradition of high-quality care that is open full-day and year-round and is staffed by highly trained teachers. In contrast, U.S. child care is primarily provided through the private market, is expensive, and is highly variable in terms of quality (Ruhm, 2011). The staff-to-child ratio in Denmark is among the lowest in the world (Gupta, Smith, & Verner, 2008). The country spends 1.17% of its gross domestic product on early care and education activities, and Danish households spend 8% of their income on child care, compared to .35% and 19%, respectively, in the United States (Ruhm, 2011).

Third, policies related to workplace flexibility likely play an important role, as they allow parents to craft work schedules to better meet their needs. Flexibility can include where, when, and how much one works (Council of Economic Advisors, 2010). According to Pew Research Center (2013), 40% of working U.S. mothers report "always" feeling rushed, and 56% find it difficult to balance work and family. Furthermore, while 30% of employed mothers work part time, 62% would prefer to do so. Indeed, the research reviewed here suggests that part-time work may be beneficial for children's health. Other important

considerations include the ability to work from home either regularly or temporarily and the ability to (a) control one's schedule to better match children's school schedules or other constraints, (b) know one's schedule in advance to better arrange child care, and (c) work part-time.

Collectively, these three policies have implications for the linkage between parents' work and children's obesity. In relation to the first mediator in the conceptual model (parental time, energy, and emotional resources), affordable and high-quality child care, parental leave, and workplace flexibility may enhance the amount and quality of time that parents have to invest in children's health. For example, because parental leave frees time when children are young, parents who take leave can spend more time organizing and regulating children's eating, activity, and sleep without sacrificing income. The availability of high-quality child care could reduce the stress and time parents would otherwise devote to managing child care while balancing work demands, allowing them to devote more attention to supporting everyday healthy practices at home. Finally, flexible workplace policies can help parents better manage their children's diet, exercise, and sleep by reducing the constraint of time and preserving the energy needed to resolve incongruent work and child schedules, thereby reducing parents' emotional stress.

Evidence of the linkages between workplace policies and child health is just beginning to emerge. For example, parental leave is associated with increased breastfeeding and birth weight, decreases in premature birth and child mortality, and improved short- and long-term child outcomes (Huang & Yang, 2015; Rossin, 2011). This pattern is generally attributed to parents monitoring of children's health (Council of Economic Advisors, 2014). Although these studies did not look at child obesity, they suggest that, when given greater time and flexibility, parents invest in children in ways that improve health. Evidence also suggests that workplace initiatives that increase schedule flexibility can improve work–family balance as well as workers' health, including sleep (Kelly, Moen, & Tranby, 2011; Moen, Kelly, Tranby, & Huang, 2011). Again, although not directly linked to child BMI, these studies do point to ways in which workplace policies can improve health and functioning more broadly, so they are relevant to the final outcome of our conceptual model (children's weight) as well as the mechanisms linking parental employment to this outcome. For example, if parents get more sleep, have lower stress, and perceive better work–family balance, these dynamics will likely have spillover benefits for their own parental management of diet, activity, and sleep and, in the process, their children's weight, as shown in our conceptual model.

Conclusion

In this article, we have reviewed the literature and put forward a conceptual model that uses ecological and developmental insights to identify the mechanisms by which parents' employment might matter for children's weight. Doing so connects developmental science to economics, demography, and other fields that currently dominate research in this area. We have also discussed this model in the context of the contemporary landscape of family policy.

Our literature review included a series of empirically rigorous studies that used robust methods to connect maternal employment to children's BMI. Looking across these studies, the preponderance of evidence supports the conclusion that mothers' employment increases the odds of a child gaining weight and being overweight. Notably, the only two contradictory studies occurred outside of the United States, in countries with stronger policy supports for working parents. Evidence further suggests that the linkages between maternal employment and BMI were strongest for mothers working most intensively.

In a departure from the literature, our discussion of the links between parental employment and children's weight encompassed *both* paternal and maternal employment. Although the narrow focus of the literature on maternal employment is motivated by several credible factors and the limited research on paternal employment to date has shown null direct effects on children's obesity, we argue that research could be extended and deepened by greater efforts to understand whether, how, and why parental employment may mean different things for families and children according to the gender of the parent and the gender composition of parenting couples. Our conceptual model, therefore, highlights the highly gendered processes linking parental employment to children's BMI but also does not assume that the entire burden of managing such processes rests solely on mothers, especially mothers partnered with men.

To move the field forward, our conceptual model drew on influential theories in developmental science to highlight the *pathways* through which parental employment influences children's BMI. These pathways trace the dynamic and contextualized linkages among parental work conditions, parenting resources, parenting behavior, children's behavior, and children's health. Although previous work has tested or motivated various components of this model, laying out a comprehensive model linking parental employment to children's BMI can put these previous studies in context, provide insights on how individual studies come together to inform our understanding, and shed light on areas where research is lacking. Our model also indicates the concentric circles of contextual influences on the processes linking parental employment to children's BMI. Doing so emphasizes that family dynamics do not occur in a vacuum but rather are part of a larger context, a point returned to in our policy recommendations. Finally, this model emphasizes the ways in which such processes likely change as children age, which is informative for families themselves but also for policymakers and practitioners seeking to develop programs that can adapt to meet the needs of families throughout the life course.

Throughout our discussion of past and future research in this area, we have emphasized the macrolevel policies that may ameliorate the difficulties parents face when trying to fulfill their roles both as parents and as employees. By focusing on the necessity of innovative policies, rather than the need to change within-family dynamics, we hoped to shift the dialogue in ways that emphasize the importance of a collective investment in our families over the individual responsibility of families to respond to challenging circumstances.

In sum, moving the focus beyond the "choices" made by parents, especially mothers, we have instead situated parents within the context of their parenting partnerships, families, communities, and policy environment. Work building on this conceptual model can broaden

the inquiry into parental employment and children's health in ways that promote policy innovation.

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Appendix A: Characteristics of Reviewed Studies on Maternal Employment and Children's Weight

Study	Data	Sample (size)	Sample characteristics	Methods
Anderson, Butcher, and Levine (2003)	National Longitudinal Survey of Youth	Children ages 3 to 11 (n = 16,650)	Representative of American children whose mothers who were between the ages of 14 and 22 in 1979	Child longitudinal difference; sibling differences at point in time; sibling differences at same age; state unemployment rate as instrumental variable
Bishop (2011)	Household, Income, and Labour Dynamics in Australia	Children ages 15 to 19 (n = 912)	Representative of all Australian households	Control for proxy of mother, youth and household characteristics; unemployment rate and hours worked by other females as instrumental variable; sibling-difference
Chia (2008)	Canadian National Longitudinal Survey of Children and Youth	Children ages 6 to 11 (n = 4,107)	Representative of Canadian children who were between the ages of 0 and 11 in 1994	Ordinary least squares; sibling difference
Datar, Nicosia, and Shier (2014)	Early Childhood Longitudinal Study, Kindergarten Cohort	5th and 8th grade samples (n for full sample = 10,630, 9,390; n for analysis sample = 9,940, 8,850)	Representative of American children who started kindergarten during the 1998–1999 school year	Ordinary least squares; control for proxy of mother's ability and health preferences; school fixed effects; state unemployment rate as instrumental variable
Greve (2011)	Danish Longitudinal Survey of Children	Children aged 7.5 (n = 4,336 mothers and 4,348 children)	Representative of Danish children born between September 15 and October 31, 1995	Mother's self-reported working hours in 1999 to explain child overweight status in 2003; local unemployment rate as instrumental variable; quantile regression
Morrissey, Dunifon, and Kalil (2011)	National Institute of Child Health and Human Development Study of Early Child Care and Youth Development	Children in 3rd, 5th, and 6th grades (n = 990)	Representative of infants and their families in 10 U.S. cities beginning in 1991; families not lost to attrition had on average higher levels of maternal education	Random effects and within-child fixed effects (pooled across 3rd, 5th, and 6th grades)
Ruhm (2008)	National Longitudinal Survey of Youth, 1979; Children	Children aged 10 or 11 years with mothers aged 35 to	Representative of American children born between 1979 and 1988 (whose mothers were ages 14 to 22 in 1979) and who	Rich set of controls; control for maternal employment during the youth's entire life;

Study	Data	Sample (size)	Sample characteristics	Methods
	of the National Longitudinal Survey of Youth	42 years (n = 2,201)	were 10 or 11 years old at one of the biennial assessment dates	sibling fixed effects; propensity score methods
Von Hinke Kessler Scholder (2008)	National Child Development Study	Children aged 16 years (n = 3,350)	Representative of British children born between March 3–9, 1958, living in the United Kingdom	Control for maternal employment at different points in child's life (preschool and ages 7 and 11); model unobserved heterogeneity as a function of proxy variables; child fixed effects
Ziol-Guest, Dunifon, and Kalil (2013)	National Longitudinal Survey of Youth, 1979; Children of the National Longitudinal Survey of Youth	Children ages 13 or 14 (n = 4,192)	Representative of American children born between 1979 and 1995, whose mothers were ages 14 to 22 in 1979	Ordinary least squares regression of cumulative employment; sibling difference

Biographies

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References

Anderson PM, & Butcher KE (2006). Childhood obesity: Trends and potential causes. The Future of Children, 16, 19–45. 10.1353/foc.2006.0001

Anderson PM, Butcher KF, & Levine PB (2003). Maternal employment and overweight children. Journal of Health Economics, 22, 477–504. 10.1016/S0167-6296(03)00022-5 [PubMed: 12683963]

Augustine JM (2014). Maternal education and the unequal significance of family structure for children's early achievement. Social Forces, 93, 687–718. 10.1093/sf/sou072

Bass J, & Turek FW (2005). Sleepless in America: A pathway to obesity and the metabolic syndrome? Archives of Internal Medicine, 165, 15–16. 10.1001/archinte.165.1.15 [PubMed: 15642868]

Bianchi SM (2000). Maternal employment and time with children: Dramatic change or surprising continuity? Demography, 37, 401–414. 10.1353/dem.2000.0001 [PubMed: 11086567]

Bianchi SM, & Milkie MA (2010). Work and family research in the first decade of the 21st century. Journal of Marriage and the Family, 72, 705–725. 10.1111/j.1741-3737.2010.00726.x

Bianchi SM, Robinson JP, & Milkie MA (2006). The changing rhythms of American family life New York, NY: Russell Sage Foundation.

Bishop J (2011). The effect of maternal employment on youth overweight in Australia. The Economic Record, 87, 92–104. 10.1111/j.1475-4932.2011.00747.x

Brooks-Gunn J, Han WJ, & Waldfogel J (2010). First year maternal employment and child development in the first seven years. Monographs of the Society for Research in Child Development, 75, 7–9. [PubMed: 25152543]

Brown JE, Broom DH, Nicholson JM, & Bittman M (2010). Do working mothers raise couch potato kids? Maternal employment and children's lifestyle behaviours and weight in early childhood. Social Science & Medicine, 70, 1816–1824. 10.1016/j.socscimed.2010.01.040 [PubMed: 20299142]

Bureau of Labor Statistics. (2014). Women in the labor force: A data book Retrieved from http://www.bls.gov/opub/reports/cps/women-in-the-labor-force-a-databook-2014.pdf

Bureau of Labor Statistics. (2015). Employment characteristics of families 2014 Retrieved from http://www.bls.gov/news.release/famee.htm

Cawley J (2001). Body weight and the dating and sexual behaviors of young adolescents. Social awakening: Adolescent behavior as adulthood approaches. In Michel R (Ed.), Social awakening (pp. 174–198). New York, NY: Russell Sage Foundation.

Cawley J (2015). An economy of scales: A selective review of obesity's economic causes, consequences, and solutions. Journal of Health Economics, 43, 244–268. 10.1016/j.jhealeco.2015.03.001 [PubMed: 26279519]

Cawley J, & Liu F (2012). Maternal employment and childhood obesity: A search for mechanisms in time use data. Economics and Human Biology, 10, 352–364. 10.1016/j.ehb.2012.04.009 [PubMed: 22790446]

Chen X, Beydoun MA, & Wang Y (2008). Is sleep duration associated with childhood obesity? A systematic review and meta-analysis. Obesity, 16, 265–274. 10.1038/oby.2007.63 [PubMed: 18239632]

Chia Y (2008). Maternal labour supply and childhood obesity in Canada: Evidence from the NLSCY. The Canadian Journal of Economics Revue Canadienne d'Economique, 412, 217–244. 10.1111/j.1365-2966.2008.00461.x

Council of Economic Advisors. (2010). Work-life balance and the economics of workplace flexibility Retrieved from https://www.whitehouse.gov/files/documents/100331-cea-economics-workplace-flexibility.pdf

Council of Economic Advisors. (2014). The economics of paid and unpaid leave Retrieved from https://www.whitehouse.gov/sites/default/files/docs/leave_report_final.pdf

Crosnoe R, & Cavanagh SE (2010). Families with children and adolescents: A review, critique, and future agenda. Journal of Marriage and the Family, 72, 594–611. 10.1111/j.1741-3737.2010.00720.x

Crosnoe R, Frank K, & Mueller AS (2008). Gender, body size and social relations in American high schools. Social Forces, 86, 1189–1216. 10.1353/sof.0.0004

Crouter AC, MacDermid SM, McHale SM, & Perry-Jenkins M (1990). Parental monitoring and perceptions of children's school performance and conduct in dual-and single-earner families. Developmental Psychology, 26, 649–657. 10.1037/0012-1649.26.4.649

Datar A, Nicosia N, & Shier V (2014). Maternal work and children's diet, activity, and obesity. Social Science & Medicine, 107, 196–204. 10.1016/j.socscimed.2013.12.022 [PubMed: 24491828]

Dierdorff EC, & Ellington JK (2008). It's the nature of the work: Examining behavior-based sources of work-family conflict across occupations. Journal of Applied Psychology, 93, 883–892. 10.1037/0021-9010.93.4.883 [PubMed: 18642990]

Dietz WH, Jr., & Gortmaker SL (1985). Do we fatten our children at the television set? Obesity and television viewing in children and adolescents. Pediatrics, 75, 807–812. [PubMed: 3873060]

Dixon B, Peña MM, & Taveras EM (2012). Lifecourse approach to racial/ethnic disparities in childhood obesity. Advances in Nutrition: An International Review Journal, 3, 73–82. 10.3945/an.111.000919

Duncan GJ, Huston AC, & Weisner TS (2007). Higher Ground: New Hope for the working poor and their children New York, NY: Russell Sage Foundation.

Dunifon R, Kalil A, Crosby DA, Su JH, & Deleire T (2013). Measuring maternal nonstandard work in survey data. Journal of Marriage and the Family, 75, 523–532. 10.1111/jomf.12017 [PubMed: 23878405]

Ebbeling CB, Pawlak DB, & Ludwig DS (2002). Childhood obesity: Public-health crisis, common sense cure. Lancet, 360, 473–482. 10.1016/S0140-6736(02)09678-2 [PubMed: 12241736]

Fertig A, Glomm G, & Tchernis R (2009). The connection between maternal employment and childhood obesity: Inspecting the mechanisms. Review of Economics of the Household, 7, 227–255. 10.1007/s11150-009-9052-y

Fiese BH, & Hammons A (2013). Theories of family health. In Fine M & Fincham F (Eds.), Handbook of family theories (pp. 398–416). New York, NY: Routledge.

Fiese BH, & Jones BL (2012). Food and family: A socio-ecological perspective for child development. Advances in Child Development and Behavior, 42, 307–337. 10.1016/B978-0-12-394388-0.00009-5 [PubMed: 22675910]

Ford MT, Heinen BA, & Langkamer KL (2007). Work and family satisfaction and conflict: A meta-analysis of cross-domain relations. Journal of Applied Psychology, 92, 57–80. 10.1037/0021-9010.92.1.57 [PubMed: 17227151]

Gennetian LA, & Miller C (2002). Children and welfare reform: A view from an experimental welfare program in Minnesota. Child Development, 73, 601–620. 10.1111/1467-8624.00426 [PubMed: 11949911]

Glass JL, & Riley L (1998). Family responsive policies and employee retention following childbirth. Social Forces, 76, 1401–1435. 10.1093/sf/76.4.1401

Goldberg WA, Prause J, Lucas-Thompson R, & Himsel A (2008). Maternal employment and children's achievement in context: A meta-analysis of four decades of research. Psychological Bulletin, 134, 77–108. 10.1037/0033-2909.134.1.77 [PubMed: 18193996]

Greve J (2011). New results on the effect of maternal work hours on children's overweight status: Does the quality of child care matter? Labour Economics, 18, 579–590. 10.1016/j.labeco.2011.03.003

Grzywacz JG, & Butler AB (2005). The impact of job characteristics on work-to-family facilitation: Testing a theory and distinguishing a construct. Journal of Occupational Health Psychology, 10, 97–109. 10.1037/1076-8998.10.2.97 [PubMed: 15826221]

Gundersen C, Lohman BJ, Garasky S, Stewart S, & Eisenmann J (2008). Food security, maternal stressors, and overweight among low-income U.S. children: Results from the National Health and Nutrition Examination Survey (1999 –2002). Pediatrics, 122, e529–e540. 10.1542/peds.2008-0556 [PubMed: 18762488]

Gupta ND, Smith N, & Verner M (2008). The impact of Nordic countries' family friendly policies on employment, wages, and children. Review of Economics of the Household, 6, 65–89. 10.1007/s11150-007-9023-0

Hawkins SS, Cole TJ, & Law C (2008). Maternal employment and early childhood overweight: Findings from the U.K. Millennium Cohort Study. International Journal of Obesity, 32, 30–38. 10.1038/sj.ijo.0803682 [PubMed: 17637703]

Himes JH (2009). Challenges of accurately measuring and using BMI and other indicators of obesity in children. Pediatrics, 124, S3–S22. 10.1542/peds.2008-3586D [PubMed: 19720665]

Hofferth SL, & Sandberg JF (2001). How American children spend their time. Journal of Marriage and the Family, 63, 295–308. 10.1111/j.1741-3737.2001.00295.x

Huang R, & Yang M (2015). Paid maternity leave and breastfeeding practice before and after California's implementation of the nation's first paid family leave program. Economics and Human Biology, 16, 45–59. 10.1016/j.ehb.2013.12.009 [PubMed: 24508006]

Jin Y, & Jones-Smith JC (2015). Associations between family income and children's physical fitness and obesity in California, 2010 –2012. Preventing Chronic Disease, 12, E17 10.5888/pcd12.140392 [PubMed: 25674676]

Johnson RC, Kalil A, & Dunifon RE (2012). Employment patterns of less-skilled workers: Links to children's behavior and academic progress. Demography, 49, 747–772. 10.1007/s13524-011-0086-4 [PubMed: 22246798]

Kalil A, Dunifon R, Crosby D, & Houston Su J (2014). Work hours, schedules, and insufficient sleep among mothers and their young children. Journal of Marriage and Family, 76, 891–904. 10.1111/jomf.12142

Kelly EL, Moen P, & Tranby E (2011). Changing workplaces to reduce work-family conflict. American Sociological Review, 76, 265–290. 10.1177/0003122411400056 [PubMed: 21580799]

Klesges RC, Klesges LM, Eck LH, & Shelton ML (1995). A longitudinal analysis of accelerated weight gain in preschool children. Pediatrics, 95, 126–130. [PubMed: 7770289]

Landhuis CE, Poulton R, Welch D, & Hancox RJ (2008). Childhood sleep time and long-term risk for obesity: A 32-year prospective birth cohort study. Pediatrics, 122, 955–960. 10.1542/peds.2007-3521 [PubMed: 18977973]

Larson RW, Richards MH, Moneta G, Holmbeck G, & Duckett E (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. Developmental Psychology, 32, 744–754. 10.1037/0012-1649.32.4.744

Lerner RM, Lewin-Bizan S, & Warren AEA (2010). Concepts and theories of human development: Historical and contemporary dimensions. In Bornstein MH & Lamb ME (Eds.), Developmental science: An advanced textbook (pp. 3–49). Mahwah, NJ: Erlbaum.

Lombardi CM, & Coley RL (2013). Low-income mothers' employment experiences: Prospective links with young children's development. Family Relations, 62, 514–528. 10.1111/fare.12018

McClendon D, Kuo JCL, & Raley RK (2014). Opportunities to meet: Occupational education and marriage formation in young adulthood. Demography, 51, 1319–1344. 10.1007/s13524-014-0313-x [PubMed: 24980386]

McCurdy K, Gorman KS, & Metallinos-Katsaras E (2010). From poverty to food insecurity and child overweight: A family stress approach. Child Development Perspectives, 4, 144–151. 10.1111/j.1750-8606.2010.00133.x

Miller DP (2011). Maternal work and child overweight and obesity: The importance of timing. Journal of Family and Economic Issues, 32, 204–218. 10.1007/s10834-010-9244-x

Mirowsky J, & Ross CE (2003). Education, social status, and health New York, NY: Aldine de Gruyter.

Moen P, Kelly EL, Tranby E, & Huang Q (2011). Changing work, changing health: Can real work-time flexibility promote health behaviors and well-being? Journal of Health and Social Behavior, 52, 404–429. 10.1177/0022146511418979 [PubMed: 22144731]

Morrissey TW (2013). Trajectories of growth in body mass index across childhood: Associations with maternal and paternal employment. Social Science & Medicine, 95, 60–68. 10.1016/j.socscimed.2012.05.038 [PubMed: 22795914]

Morrissey TW, Dunifon RE, & Kalil A (2011). Maternal employment, work schedules, and children's body mass index. Child Development, 82, 66–81. 10.1111/j.1467-8624.2010.01541.x [PubMed: 21291429]

Must A, & Strauss RS (1999). Risks and consequences of childhood and adolescent obesity. International Journal of Obesity and Related Metabolic Disorders, 23, S2–S11. 10.1038/sj.ijo.0800852

Nader PR, O'Brien M, Houts R, Bradley R, Belsky J, Crosnoe R, … the National Institute of Child Health and Human Development Early Child Care Research Network. (2006). Identifying risk for obesity in early childhood. Pediatrics, 118, e594–e601. 10.1542/peds.2005-2801 [PubMed: 16950951]

Nielsen LS, Danielsen KV, & Sørensen TI (2011). Short sleep duration as a possible cause of obesity: Critical analysis of the epidemiological evidence. Obesity Reviews, 12, 78–92. 10.1111/j.1467-789X.2010.00724.x [PubMed: 20345429]

Nomaguchi K, & Milkie MA (2015). Gender, accuracy about partners' work–family conflict, and relationship quality. In Mills M (Ed.), Gender and the work-family experience (pp. 159–176). New York, NY: Springer 10.1007/978-3-319-08891-4_9

Ogden CL, Carroll MD, Kit BK, & Flegal KM (2014). Prevalence of childhood and adult obesity in the United States, 2011–2012. Journal of the American Medical Association, 311, 806–814. 10.1001/jama.2014.732 [PubMed: 24570244]

Ogden CL, & Flegal KM (2010). Changes in terminology for childhood overweight and obesity. National Health Statistics Reports, 25, 1–5.

Patel SR, & Hu FB (2008). Short sleep duration and weight gain: A systematic review. Obesity, 16, 643–653. 10.1038/oby.2007.118 [PubMed: 18239586]

Perry-Jenkins M, & MacDermid S (2013). The state of theory in work and family research at the turn of the twenty-first century. In Fine M & Fincham F (Eds.), Handbook of family theories: A content-based approach (pp. 381–398). New York, NY: Routledge.

Pew Research Center. (2013). Modern parenthood: Roles of moms and dads converge as they balance work and family Retrieved from www.pewsocialtrends.org/files/2013/03/FINAL_modern_parenthood_03-2013.pdf

Phipps SA, Lethbridge L, & Burton P (2006). Long-run consequences of parental paid work hours for child overweight status in Canada. Social Science & Medicine, 62, 977–986. 10.1016/j.socscimed.2005.06.054 [PubMed: 16099085]

Powell LM, & Nguyen BT (2013). Fast-food and full-service restaurant consumption among children and adolescents: Effect on energy, beverage, and nutrient intake. Pediatrics & Adolescent Medicine, 167, 14–20.

Presser HB (1989). Can we make time for children? The economy, work schedules, and child care. Demography, 26, 523–543. 10.2307/2061256 [PubMed: 2583315]

Presser HB (2005). Working in a 24/7 economy: Challenges for American families New York, NY: Russell Sage Foundation.

Repetti RL, Matthews KA, & Waldron I (1989). Employment and women's health: Effects of paid employment on women's mental and physical health. American Psychologist, 44, 1394–1401. 10.1037/0003-066X.44.11.1394

Rossin M (2011). The effects of maternity leave on children's birth and infant health outcomes in the United States. Journal of Health Economics, 30, 221–239. 10.1016/j.jhealeco.2011.01.005 [PubMed: 21300415]

Ruhm CJ (2008). Maternal employment and adolescent development. Labour Economics, 15, 958–983. 10.1016/j.labeco.2007.07.008 [PubMed: 19830269]

Ruhm CJ (2011). Policies to assist parents with young children. The Future of Children, 21, 37–68. 10.1353/foc.2011.0015 [PubMed: 22013628]

Ryan RM, Kalil A, & Leininger L (2009). Low-income mothers' private safety nets and children's socioemotional well-being. Journal of Marriage and the Family, 71, 278–297. 10.1111/j.1741-3737.2008.00599.x

Sampson RJ, Raudenbush SW, & Earls F (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. Science, 277, 918–924. 10.1126/science.277.5328.918 [PubMed: 9252316]

Scholder SHK (2008). Maternal employment and overweight children: Does timing matter? Health Economics, 17, 889–906. 10.1002/hec.1357 [PubMed: 18566969]

Simons RL, Murry V, McLoyd V, Lin KH, Cutrona C, & Conger RD (2002). Discrimination, crime, ethnic identity, and parenting as correlates of depressive symptoms among African American children: A multilevel analysis. Development and Psychopathology, 14, 371–393. 10.1017/S0954579402002109 [PubMed: 12030697]

Snell EK, Adam EK, & Duncan GJ (2007). Sleep and the body mass index and overweight status of children and adolescents. Child Development, 78, 309–323. 10.1111/j.1467-8624.2007.00999.x [PubMed: 17328707]

Spencer MB (2006). Phenomenology and ecological systems theory: Development of diverse groups. In Damon W & Lerner R (Eds.), Child and adolescent development (pp. 696–791). New York, NY: Wiley.

Steinberg L (1986). Latchkey children and susceptibility to peer pressure: An ecological analysis. Developmental Psychology, 22, 433–439. 10.1037/0012-1649.22.4.433

Steinberg L (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. Journal of Research on Adolescence, 11, 1–19. 10.1111/1532-7795.00001

Umberson D, & Kroeger RA (2016). Gender, marriage, and health for same-sex and different-sex couples: The future keeps arriving. In McHale S, King V, van Hook J, & Booth A (Eds.), Gender and couple relationships (pp. 189–213). New York, NY: Springer 10.1007/978-3-319-21635-5_12

Van Cauter E, & Knutson KL (2008). Sleep and the epidemic of obesity in children and adults. European Journal of Endocrinology, 159, S59–S66. 10.1530/EJE-08-0298 [PubMed: 18719052]

Vandewater EA, Shim MS, & Caplovitz AG (2004). Linking obesity and activity level with children's television and video game use. Journal of Adolescence, 27, 71–85. 10.1016/j.adolescence.2003.10.003 [PubMed: 15013261]

von Hinke Kessler Scholder S (2008). Maternal employment and over-weight children: Does timing matter? Health Economics, 17, 889–906. 10.1002/hec.1357 [PubMed: 18566969]

Waldfogel J (2006). What children need Cambridge, MA: Harvard University Press.

Waldfogel J, & McLanahan S (2011). Work and family: Introducing the issue. The Future of Children, 21, 3–14. 10.1353/foc.2011.0011

Wilson MN (1989). Child development in the context of the Black extended family. American Psychologist, 44, 380–395. 10.1037/0003-066X.44.2.380

Wrzus C, Hänel M, Wagner J, & Neyer FJ (2013). Social network changes and life events across the life span: A meta-analysis. Psychological Bulletin, 139, 53–80. 10.1037/a0028601 [PubMed: 22642230]

Ziol-Guest KM, DeLeire T, & Kalil A (2006). The allocations of food expenditure in married-and single-parent families. The Journal of Consumer Affairs, 40, 347–371. 10.1111/j.1745-6606.2006.00061.x

Ziol-Guest KM, Dunifon RE, & Kalil A (2013). Parental employment and children's body weight: Mothers, others, and mechanisms. Social Science & Medicine, 95, 52–59. 10.1016/j.socscimed.2012.09.004 [PubMed: 23031605]

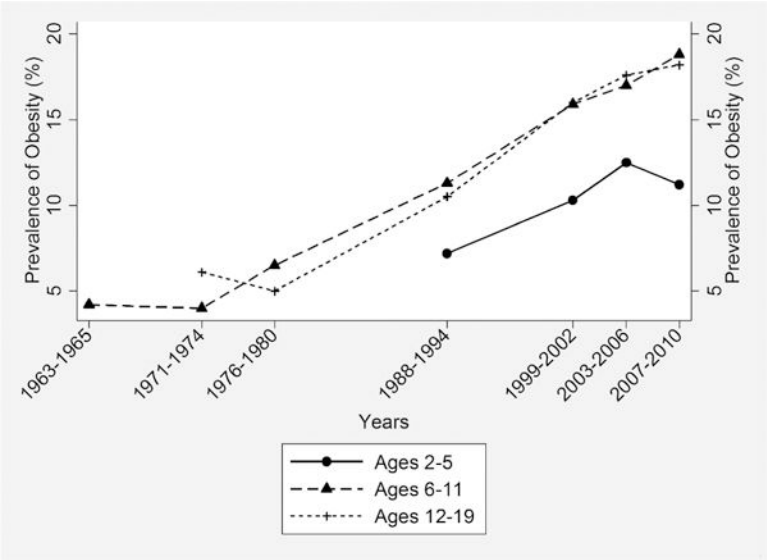

Figure 1.

Trends in the prevalence of youth obesity in the United States using body mass index (source: Cawley (2015); data: National Health and Nutrition Examination Survey 1963–2010).

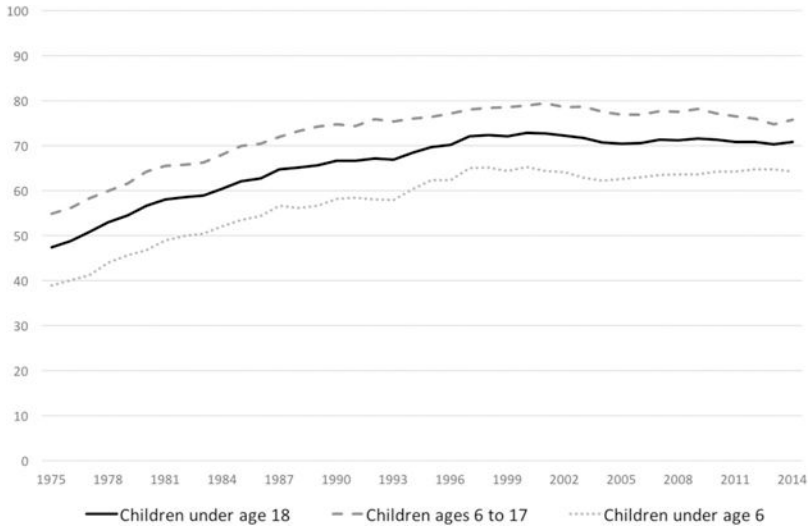

Figure 2.
Percent employed among women with children under age 18.

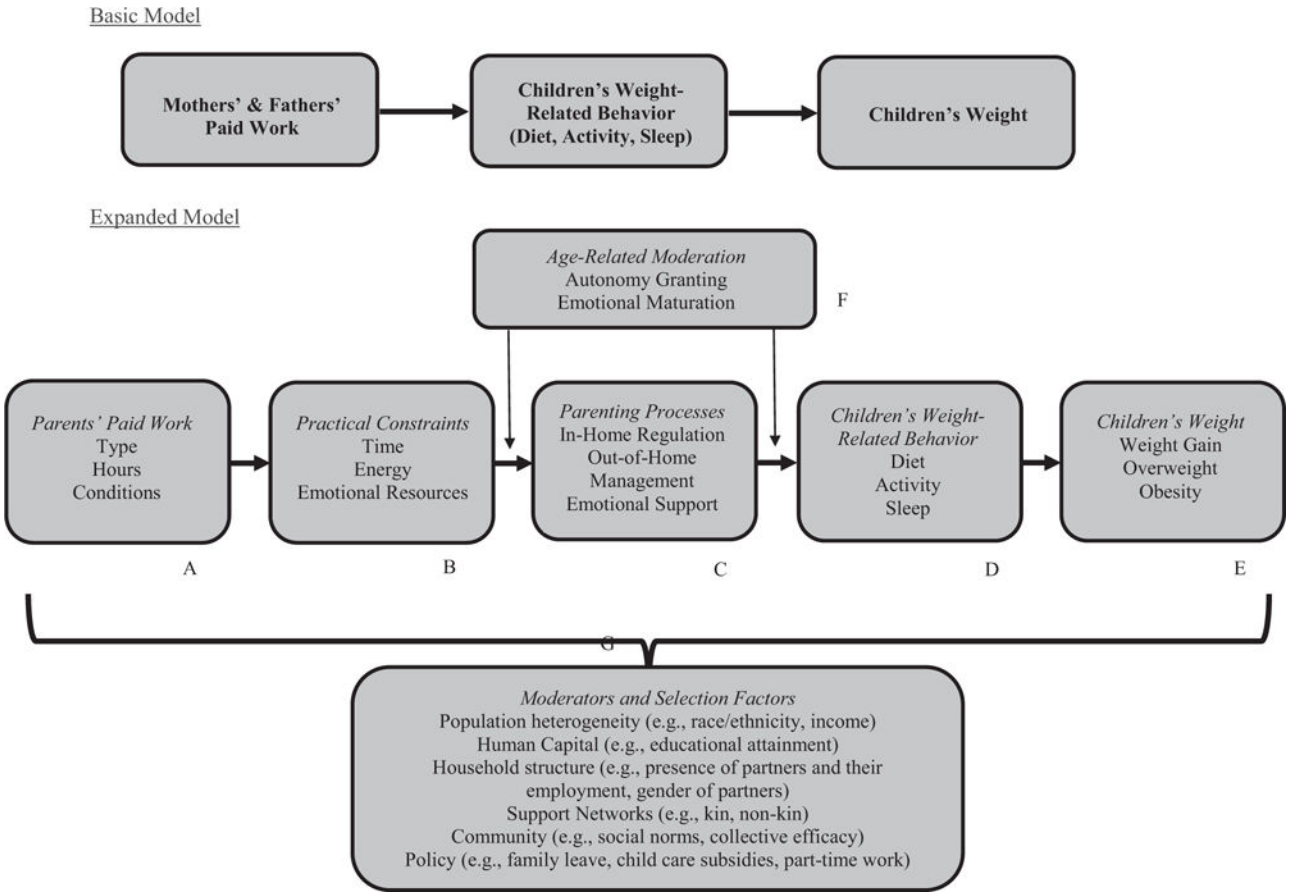

Figure 3.
Developmentally oriented conceptual model of the link between mothers' employment and children's weight.