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Does early maternal employment affect non-cognitive children outcomes?

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Abstract

This review aims at summarizing research-findings in the field of early maternal employment and children's psychological development. We are concentrating on maternal work during the first 4-5 years of children's life, and look at research investigating linkages between maternal employment and various aspects of children's psychological functioning in these early years or later. Most articles discussed here came from the Journal of Marriage and the Family, although some other journals are also included. When selecting the articles, attempts were made to collect relatively recent papers if possible from various research traditions, including sociological as well as psychological approaches.

Our review has shown that according to the existing research evidence early maternal employment per se has a clear adverse effect on children's socioemotional development only if it happens in the first year of children's life. Consequences of later employment (eg. when the child reaches 4 year of age) might even include positive ones. In itself, it also seems to do very little difference whether the mother works full time or part time. It is only extremely long hours that might cause concern.

There are however other circumstances that might divert the impact of maternal work into a negative direction. These include incongruence between maternal employment preferences and actual behaviour, high level of occupational stress, low income and low complexity of work. When these circumstances are present, children of working mothers are more likely to show behavioural problems than their counterparts. Possible negative effects of maternal employment can in theory be overcome by a high quality alternative care and also with much attention given to the child in the restricted amount time the mother can spend with her/him. In the reality however, risk factors tend to accumulate and positive factors are not easily available for those most in need.

JEL: I29, J13

Keywords:

maternal employment; behaviour problems; psychological development; early ages

Az anya korai munkavállalásának a gyermek személyiségfejlődésére gyakorolt hatásairól

Blaskó Zsuzsa

Összefoglaló

Ez az írás az anyák korai munkavállalásának a gyermek pszichés fejlődésére gyakorolt hatásairól szóló szakirodalom áttekintésére vállalkozik. Azt a kérdést járja körül, hogy kimutatható-e bármiféle hatás a gyermek viselkedésére, pszichológiai fejlődésére akkor, ha az anya már a korai években munkát vállal. Tekintve a téma jelentőségét, az áttekintés semmiképpen nem lehet teljes körű. Válogatásunkban arra törekedtünk, hogy abban a legújabb kutatási eredmények tükröződjének, és hogy a kapcsolódó tudományágak (pszichológia, szociológia, közgazdaságtan) legkülönbözőbb megközelítési módjainak teret adjunk.

A tanulmányok áttekintéséből kiderül, hogy az anyai munkavállalásnak önmagában csak akkor van egyértelmű negatív hatása a gyermek fejlődésére, ha az anya már a gyermek első életévében munkába áll. Az ennél későbbi munkavállalásnak akár pozitív következményei is lehetnek. Ezen eredmények értelmezésekor figyelembe kell ugyanakkor venni, hogy a fellelhető kutatások komoly hiányossága, hogy nem differenciálnak kellően árnyaltan a különböző életkorú – pl. 1.5.-2-3 éves – gyermekek között.

Önmagában láthatólag annak sincsen döntő jelentősége, hogy az anya teljes állásban vagy részmunkaidőben dolgozik – csupán a szélsőségen hosszú munkaidő okoz gondokat a gyermek viselkedésében. Vannak azonban olyan körülmények, amelyek között nagy valószínűséggel viselkedési problémákhoz vezet az, ha az anya munkát vállal. Ilyen helyzet az, ha az anya kényszerként éli meg a munkavállalást; ha nagyon erőteljes stresszt él át a munkahelyén; ha keveset keres, illetve ha a munka amit végez, nem kellően összetett. Bár elvileg az ilyen helyzetekből származó negatív hatások ellensúlyozhatóak lennének magas színvonalú gyermek-ellátó intézményekkel, vagy ha az anya a rendelkezésére álló kevés időben különös gondot tudna fordítani gyermekére. A valóságban azonban a kockázati tényezők gyakran összekapcsolódnak, és ezek a megoldások éppen azok számára a legkevésbé elérhetők, akik leginkább rászorulnának.

Tárgyszavak:

női munkavállalás; anyák; viselkedési problémák; pszichés fejlődés; kisgyermekkor

AIMS AND SCOPE OF THIS REVIEW

This review aims at summarizing research-findings in the field of early maternal employment and children's psychological development. We are concentrating on maternal work during the first 4-5 years of children's life, and look at research finding investigating linkages between maternal employment and various aspects of children's psychological functioning in these early years or later.¹

The general assumption that lies behind these studies is that maternal employment should not only be viewed from the aspect of the labour market, but also its possible consequences on the family members' well-being should be considered – with a special attention to the children. On the basis of psychological theories but also general, scientifically loosely supported assumptions, serious concerns have initially been raised about the possible detrimental impacts attributed to the absence of mothers from their young children's everyday life. Under the domain of psychological effects, research tends to focus on behavioural outcomes, including the occurrence of a series of behavioural problems, such as aggression, hyperactivity, externalising behaviour, internalising behaviour problems etc.

The majority of research reported here was carried out in the USA. This is because the last decades of the 20th century witnessed a major increase in women's and also mothers' employment in that country and this increase awoke the attention of the general public, social politicians as well as researchers in the field. This interest also played a role in launching a major survey, called the National Longitudinal Youth Survey in 1979. This survey and its mother-children supplement in 1986 contributed a lot to our current understanding of the problem,² although research findings based on other sources of information are also forming a major part of the relevant literature.

One needs to be very cautious when generalising the findings from these research to other countries. First of all it has to be noted that there are substantial national variations in the central domains included in these analyses. The very notion of maternal employment is a multifaceted phenomenon, marked with national characteristics. Frequency of maternal work, demographic and social characteristics of working women, the extent of financial strain imposed on them, the nature of work they tend to do, availability of part-time work... -

¹In fact, psychological development is only one of the three broad areas of children outcomes, in which child-related consequences of mother's employment have been widely investigated. Out of the three, maybe the most often researched area is cognitive outcomes, with the impact of mothers' work on children's vocational skills, academic performance etc. being in focus. (Recent examples include Han et.al. 2001; Waldfogel, Han and Brooks-Gunn 2002. etc. For a partial literature review in Hungarian see Benedek, 2007). Also considerably well developed is the field of nutritional and – through this – health-related consequences of non-maternal childcare, often discussed in relation to (lack of) breastfeeding. A cross-country example to this line of research is Tanaka, 2005.

²For details on this survey see Section III.

indeed, the entire set of surrounding labour market circumstances show significant cross-country differences, many of which might well be reflected in the outcomes of maternal work. Alternative childcare opportunities – another crucial factor in the investigated causal relationship – also differ markedly between countries. Availability and affordability of good quality child-care, let it be centre-based, institutionalised or family-based, availability of family support, professional training provided to carers are only a few of the numerous factors that have serious implications on how mothers' work might effect children and that also show major variations by country. A further key factor, (although not directly included in the studies) is the system of childcare benefits. This includes whether or not mothers receive any financial support after giving birth, how long they can enjoy maternal leave, the level of substitution rate when cash-support is received etc. All these can influence mothers' well-being and might therefore interrelate with children outcomes as well. These are only a few examples of the potential intervening effects that might lead to different findings in countries other than the USA (or indeed any country investigated) when potential impacts of maternal employment are considered.

Only research findings, published in English are reviewed in the present paper. Most articles discussed here came from the *Journal of Marriage and the Family*, although some other journals are also included. When selecting articles for this review, attempts were made to collect relatively recent papers if possible from various research traditions, including sociological as well as psychological approaches. The articles selected represent a wide range of issues investigated in relation to the impact of mothers' employment on children's socioemotional well-being. They are typically based on large-scale surveys and come from the research line that aims at identifying specific circumstances under which maternal employment might impact children's development.

This review is divided into three major sections. Firstly, key findings in the field are summarised along the most important influencing factors identified in the literature. In writing this summary, I relied to a large extent on three excellent reviews, published in the *Journal of Marriage and the Family* (Belsky, 1990; Menaghan and Parcel 1990; Perry-Jenkins et. al. 2000). Besides, several additional articles in the field were reviewed, and findings from these are also included in this summary. In the second section, these selected studies are described in more details, concentrating on the research-elements directly related to our question in focus: does early maternal employment influence children's psychological well-being? Finally, in the last section I provide a description of some of the major research tools, including the major USA survey in the field and also some widely used scales applied in the studies discussed. In the end of the report, a selected bibliography of research in the field is presented.

I. THE IMPACT OF MATERNAL EMPLOYMENT ON CHILDREN'S PSYCHOLOGICAL FUNCTIONING

1. RESEARCH PROBLEM AND MAIN FINDINGS

Initially, concerns about maternal employment were to a large extent based on attachment security theory (Bowlby, J. 1969) and consecutive laboratory research (Ainsworth, M. 1973). Theory suggests that a responsive, sensitive caregiver is necessary to secure a stable, healthy attachment bond for infants. Secure infants are then expected to show a healthier psychological development, feeling more secure about themselves as well as about their relationships. Data from research generally support this theory showing clear and significant associations between early infant-mother attachment security and subsequent competence; let it be sociability with adults or other children (e.g. Main and Weston 1981; Jacobson and Wille, 1986), competency with peers, popularity among peers (LaFreniere and Sroufe, 1985), confidence (Lütkenhaus et. al. 1985), activity and independency when exploring new environment (Hazen and Durrett, 1982). Moreover it has also been shown that positive outcomes last beyond early childhood (e.g. Bradley et.al. 1988).

Systematic research however has failed to show that such a positive attachment is necessarily jeopardized by maternal employment in the early years. Instead, analyses contrasting young children with employed mothers and children with non-working mothers do not find any systematic difference in the psychological wellbeing of the children that could be attributed to maternal employment per se. Relating findings being rather inconsistent, with a few research showing some negative effects, while others even positive ones, reviewers usually conclude that maternal employment in itself does not necessarily jeopardize children behavioural outcomes.

In a systematic review of earlier research based on the National Longitudinal Survey of the Youth data Harvey (1999) concludes that neither maternal employment status nor its timing or continuity were consistently related to child outcomes. However, other research in the 1990s was successful in specifying certain conditions in under which maternal work might influence children. (Perry-Jenkins 2000) The emphasis here should be on certain conditions – indeed, the strength of more recent work in the field lies in identifying circumstances that might interrelate with maternal employment so that maternal employment will in the end negatively affect children's development.

From the literature three key factors can be identified, that significantly influence whether or not early maternal employment leaves a mark on children's psychological development. Firstly, the age of the child when mother returns to employment is a crucial

factor. The very early years of children's life constitute a diverse phase of time, when extremely rapid development is taking place in countless areas – physically, mentally, psychologically as well as cognitively. The general development, a child goes through in her/his first three years of life is tremendous. Several developmental phases can be identified until the defenceless infant becomes a 3-year old toddler with considerable motoric and also vocational skills, the ability of sharing and playing with others, express themselves rather clearly, critical thinking etc. During this time sensitivity of children to the (temporary) loss of a significant other is also varying a lot. In which of these phases full-time maternal care becomes substituted with alternative solutions can be a major determinant of successive effects. Any studies in the field must therefore be read with an increased awareness of the timing discussed and no general conclusions whether or not maternal employment before the age of 3 (or any other age) in general has negative impacts should be drawn.

Secondly, nature and quality of alternative child-care is important. When mothers of young children start employment, they can (in theory) choose from a broad selection of alternative childcare solutions. Young children can be looked after by friends, relatives, or a baby-sitter (informal care), with or without peers in the company. Informal care can either be home-based or happen in a different environment. Institutional child-care solutions differ in number of children in a group, carer / children ratio, training given to the carer, general philosophy of the institution on what young children need etc. In case of formal and also informal care, physical environment provided to children might vary a lot as do amount and nature of cognitive stimulus given to the child. Not surprisingly, all the factors listed (and also others) influence children's development and which type of care is chosen might have a long-lasting impact on the child. As it is often suggested, good quality alternative child care might even positively influence children's development. When (as it sometimes happens) a combination of various forms is used, the question of stability-instability arises. But of course we are not speaking of free choices of the parents here. Availability and affordability of child-care is decisive – parents often have no real choice at all and take the only option available. All in all, the question whether maternal care or alternative childcare is the more advantageous for the child can not be truly answered without some information on the non-maternal care³ provided.

Thirdly, the nature of maternal employment has to be investigated. Children's early experiences vary substantially according to the amount of time their mother spends working, and – more importantly – according to the experiences mothers get at work. As it will be discussed in more detail, complexity of work and level of stress caused by work can both influence mothers' mood and childrearing behaviour, which in turn will have an impact on

³ In fact, nature and quality of maternal care should also be assessed. For some comment on this issue see the end of this section.

children's development. Also, perceived role-strain is important: mothers whose preferences for employment and their actual life is incongruent, experience psychological difficulties themselves, which will then be reflected in their parenting behaviour, leading to behaviour problems in their children. The importance of these factors again has to warn us against generalising the findings across countries. Clearly, characteristics of the labour market, job stability, and welfare services provided to working mothers are all important determinants of women's work-experience and this way of children's wellbeing.

After the three key issues listed, two more aspects will be briefly considered. Although not at all less important than the three factors listed above, social standing of the family and also quality of maternal care are only briefly discussed in this report. This is because they either receive less attention in the literature, or are so strongly interrelated with other factors that their significance is hard to separate. Nevertheless, in some studies concerns are raised in relation to the family's social standing and the general finding seems to be, that lower income mothers experience more pressure and their employment can therefore be more detrimental for children's wellbeing. As far as quality of time mother spends with children is concerned, large scale surveys are not very adequate to capture the phenomenon. Nevertheless, available research evidence underlies the importance of this factor and it shows that quality of maternal child-care can to a large extent substitute quantity of time.

In the next section, main findings from the literature shall be summarized along the key issues described above. Although an attempt is made here to separate the possible effects that might influence children's wellbeing when mothers are working, as we will see, the real risk is often involved in an accumulation of the various detrimental factors.

2. MAIN FACTORS INFLUENCING THE IMPACT OF MATERNAL EMPLOYMENT

2.1. *Timing of non-maternal care*

Research differentiates by timing of maternal employment – an important cut-off point being when the child is one year old. Cognitive but to some extent also non-cognitive consequences on children's development seem to show distinct patterns by the age of child when mothers start employment. Generally speaking, negative impacts are found to be more pronounced in either domain if the child is below one year old at this time. With a later start of mother's employment research findings show a more mixed picture with some negative, but also positive effects. For example Nomaguchi (2006) shows that maternal employment when the child is 4 year old has a range of positive impacts, including a decreased level of aggression and anxiety and also more prosocial behaviour.

In the USA, with 55% of mothers with infants being in the labour force in 2002⁴, impact of a very early start of maternal work is a central issue. The growing tendency of such early maternal employment has evoked particular concerns, provided that attachment security theory (as well as other approaches) attaches an increased importance to maternal care in the first year of life. Many studies therefore concentrate on this period. Early reviews of these concluded that irrespective of child care arrangements, children with non-maternal care in their first year of life for 20 hours or more per week are at increased risk of being insecurely attached to their mother at 12 and 18 months of age and of being increasingly disobedient or aggressive from age 3 to 8. (See e.g. Belsky 1988). The picture is not entirely clear though. In fact, not every relevant study has justified the relationship and effects found are usually small. Also, early studies tend to be very unspecific about the mechanisms relating maternal employment to negative child outcomes and also about the circumstances in which they emerge. This is partly because they tend to rely on data of specific subgroups in the society, and they often work with relatively small samples. Furthermore, they often miss the important point of type and quality of day care and also that children are neither randomly assigned to employed and non-employed mothers nor to care arrangements of varying quality. In fact, on the basis of before-1990 research in the field what Belsky suggests is no less or more, than extensive child care in the USA “...is a *'risk factor'* with regard to the *social development outcomes in question*”. (Belsky 1990 pp. 895)

It is no doubt that children's age at the time when mother starts working must be taken into account and it seems to be clear also from later studies that the first year of life is increasingly critical from this point of view. Belsky for example is referring to a study

⁴ <http://www.24-7pressrelease.com/press-release/mothers-in-the-work-place-are-on-the-rise-in-2006-90-of-all-of-lone-peak-business-solutions-mothers-were-in-the-workforce-27662.php>

considering both age of the child *and* quality of child care and looking at children in a longitudinal manner at the ages 2, 4 and 5 (Howes 1990). Findings from this study reveal that the combination of low quality child care *and* early (before age 1) child care are indeed significantly increasing the risk of problematic behaviour at the pre-school ages. Another study, cited by Belsky (1990) is looking at middle-class third-graders in Dallas and Texas, whose mothers returned to work for at least 30 hours per week before they turned 1 (Vandell and Corasaniti 1990). In this study it was found that these children were among the most poorly scoring ones on evaluations of social and emotional functioning made by mothers, teachers and also the children themselves. No similar effect was however found in a comparable Swedish study (Anderson 1989). It is suggested that this substantial difference between the American and the Swedish findings is attributable to differences in the parental leave system (a 6 months paid parental leave in the first year of life available in Sweden only) and the nature and quality of available child care in the two countries. Clearly, this difference should draw attention to the importance of national institutional settings, and to the serious limitations with which findings from other countries could be generalised.

The majority of relevant research however continues to relate to the USA. Especially the National Longitudinal Survey of Youth (NLSY) has proved to be an extremely rich source of information on childhood circumstances and various outcome measures. Thanks to this dataset, studies from the 1990s were based on more representative and also larger samples, and this way they could come over some of the shortcomings of earlier analyses. Here we want to draw attention to two examples of these studies.

The first one is important because it contradicts other research findings by concluding that as far as early behavioural outcomes are concerned, no systematic difference between the negative influence of before-age 1 maternal employment and between 1 and 2 maternal employment can be found (Belsky and Eggebeen 1991). By assessing the impact of the timing of maternal work on a composite measure of behavioural adjustment between the age of 4 and 6, along with the effect of several control factors, they could not detect any significant difference between the (negative) impacts of starting employment before the age of 1 and between years 1 and 2⁵.

In a more recent study Han and colleagues are using a somewhat different subsample from the same NLSY survey (Han et. al. 2001). Their analysis is unique in assessing longer-term effects of maternal employment by looking at children's development at the age of 4, 5-6 and 7-8, repeatedly. They also use a very detailed measure of maternal employment by differentiating not only by the year when mother started working, but also by the quarter of year of employment in the first year of children's life. When only year of maternal

⁵ Details of this study and also others are provided in Section II.

employment is included in the models, after controlling for a range of factors, they detected no association between mother's work and behavioural problem in the childhood. When however the more detailed measure of employment timing in the first year was applied, children whose mother started working in the first 3 quarters after birth were found to have significantly more behavioural problems at the age of 7-8, than children whose mothers did not work in the early years at all. It is important to note here that a negative effect was only found at the age of 7-8, and not before, suggesting that early maternal employment might have logged effects, not detected in studies of different design. The relationship was significant in the case of White Americans only and further investigations also revealed that the effect of maternal employment is concentrated in the area of externalizing problems. Youngblade (2003) however found that maternal employment in the first year after birth might impose statistically significant logged effects also on acting out behaviour and frustration tolerance at the age of 8-9, and also on hitting behaviour and meanness as rated by peers. Her study however was based on a substantially smaller sample, allowing for a smaller number of controls.

Maternal employment status and children outcomes are investigated on a panel dataset at age 2 and then again at age 4 in a Canadian study (Nomaguchi 2006). Nomaguchi's analysis also provides an opportunity to understand differential impact of maternal work at various ages of the child, and highlights some logged effects of early maternal employment. Briefly, after controlling for a range of factors, including child care arrangements, they fail to find any relationship between maternal employment and a range of behavioural problems of the child (including hyperactivity, physical aggression, prosocial behaviour, unhappy mood and anxiety) at the age 2. At the age 4 however, *current* maternal employment's effects are dominantly positive, with children of working mothers being less aggressive, more prosocial and less anxious than their counterparts. These associations hold for children of mothers working either full-time or part-time. In the case of hyperactivity however they find that only children of part-time working mothers score better than children of non-working mothers. Along with the positive ones, they also identify a logged negative effect of mother's employment. Children whose mother worked either full-time or part-time when they were 2 are significantly more aggressive two years later than their counterparts.

Although the picture is not entirely homogeneous, there are some general messages shining out from research on the influence of timing of maternal employment. Starting in the first year after birth has been found to be detrimental on the psychological development of the child in several studies. It also seems to be clear, that within this first year, the earlier the start, the more the potential negative effects. Research on mother's employment in the second or a later year of children's life is scarce. Also, the few existing ones provide no guidance on the precise timing, i.e. no further differentiation is made between months 12-18

and 18-24 and so on. This might be a problem, since as it was mentioned before; early child development is a very fine process, with rapid changes in the first few years. From the existing research we can only conclude that employment in the second year might also be a risk from some aspects of psychological development. Finally, an important finding is that negative effects on behavioural outcomes might be logged by several years therefore it is possible that they can only be pinpointed in research of a longitudinal design.

2.2. Nature and quality of nonparental day-care

Nature and quality of day-care that substitutes maternal care has for long been identified as a crucial factor that might determine child outcomes. Non-parental child care is usually classified into formal and informal types – formal ones providing an institutional-like setting (although to a varying degree) away from the child's home, while informal ones are typically secured in the home of the child by a relative or possibly by a friend or a baby-sitter. In the USA, formal and informal day-care settings were shown to differ substantially according to the child-caregiver interactions, physical environments and activities children experience (Nomaguchi 2006), and as a consequence they are expected to have different impact on children's development. Typically, formal child-care is provided by specially trained adults, and therefore it is suggested to promote better cognitive development. Day-care centres in the USA are also described to provide more stimulating physical environment, greater interaction with a diverse group of adults and children. On the other hand, informal child-care, especially if provided by a relative can secure better child - care-giver relationship and more secure attachment. Naturally, quality of child-care in the various institutional forms may also vary. Important factors identified here were size of group, care-giver child ratios and training of care-giver. (Belsky 1990).

Given the various forms of differences between different types of day-care, it is expected that types of child care are strongly related to child outcomes. Generally it is suggested, that because of the intellectual stimulation they provide, enrolment in formal child-care institutions, such as day care centres and school settings are beneficial for children's cognitive development. It is less clear though, how formal day-care settings relate to children's socioemotional development. On the one hand, it is suggested that caregiver's less sensitive attention to children, the less-personal caregiver-child relationship might lead to hyperactivity, physical aggression, anxiety or less social competence (e.g. Jacobvitz and Stroufe 1987; NICHD 1998, 2003). A possible counter-argument is though that professionally trained care-givers can provide more age-appropriate interactions which might even prevent from hyperactivity (Jacobvitz and Stroufe 1987) and intense interactions with peers might increase social competence (NICHD, 2003). (Cited by Nomaguchi 2006)

A range of studies in the 1970s was looking at US children in high-quality, university-based centres and investigated the impact of early care in these institutions on children's psychological well-being. (Belsky 1990). With hardly any exception, the conclusion of these studies gave reason to no concern about children's development in such settings, not even when mother-child attachment was investigated. However, the special nature of the institutions included in this line of research does not allow for broad generalization of findings. They only show that exceptionally high quality non-maternal child care does not seem to do any harm to children's well-being. Later research-findings that are easier to transform into legislative regulations were looking at the impact of group-size, caregiver training and caregiver-child ratios. Generally, such studies have shown that in centres where group-size was modest (15-18 children), children / care-giver ratios were low and care-givers were provided specialised training in child-development and related fields, care-givers performed a more stimulating, responsive and less restrictive mode of child-care. As a consequence, children in such circumstances tended to be more cooperative and more emotionally secure than children in centres with less advantageous circumstances (see e.g. Belsky 1984). A further important factor related to positive child-outcomes was supervisory assistance provided to care-givers. It is important, that generally similar mechanisms were found to influence children's well-being not only in large, institutionalised day-care centres, but also in family day-care centres. However, it is not clear from this line of research, how socioemotional well-being of children in day-care centres relates to that of children in family day-care centres or to children looked after by their mothers. (Belsky 1990).

Quality of child care however is far from being an independent factor influencing various measures of children's well-being. Instead, it has been shown that child care is not randomly assigned to families with various social standings. In the USA, selection between the various forms of child-care has been found to be determined by availability, affordability, intensity of maternal employment and also to some extent parental attitudes on childrearing (e.g. Baydar and Brooks-Gunn 1991). Flexibility about drop-off and pick-up times was also shown to influence mother's choice of child-care (e.g. Henly and Lyons 2000). All these selection criteria contribute to high level of social selectivity into child care institutions of higher quality in the USA. Belsky (1990) is listing various studies indicating that poor quality child care is related to family stress (Howes and Stewart 1987), low socioeconomic status (e.g. Goelman and Pence 1987) and childrearing attitudes with a preference for conformity to adult rules (Phillips et. al. 1987). Some other studies however failed to establish such relationships (e.g. Peterson and Peterson 1986; Waite et. al. 1988)

In a large study, the National Institute of Child Health and Development's (NICHD) Early Child Care Research Network launched a research project to illuminate whether nonmaternal care in the 1st year of children life had any negative effect on mother-infant attachment but

found no evidence supporting the hypothesis. (NICHD 1997a, 1997b) Instead it was found that a negative effect only occurs when a set of possible risk factors is present. These include poor-quality care, unstable care and more than minimal amounts of care coupled with insensitive mothering. (Cited by Perry-Jenkins 2000)

Finally, instability of child-care arrangements was also found to be negatively related to psychological development. (Youngblade 2003) Child-care arrangements in this study were rated as unstable by number of childcare arrangement types, mother was using in the first year of the child. The study concludes that as far as hitting and meanness (as measured by peer ratings) are concerned, negative effects of maternal employment in the first year of child can at least be partially attributed to instability of child-care arrangements. Sample size in this study however is rather low.

To sum up: it seems to be justified that centre-based care can be improved in a direction that can even promote children's wellbeing, possibly even if compared to maternal care. Well-trained care-givers equipped with supervisory assistance, relatively small groups of children and low children / care-giver ratios can all add to the improvement of the service. At the same time, low quality care can be clearly detrimental, especially if other risk factors are also present. Unfortunately, research on the consequences of day-care, that include the necessary amount information on the nature and quality of care do typically lack the similarly rich set of information on parental circumstances and they often compare day-care children to day-care children only.

2.3. Mother's employment experiences

A further important mechanism that is suggested to link maternal employment to childhood wellbeing is mother's experiences in work. Working women vary substantially not only in the objective characteristics of their employment, such as working time, working conditions, level of autonomy in the job etc, but also in the way they subjectively perceive their situation. Various lines of research argue that all these circumstances might relate to children's well-being via mothers' attitudes, or their own well-being, mood or cognitive state as determined by their employment experiences. In the forthcoming we will at first look at the amount of time mother works (full time versus part time), then we turn to the interrole conflicts and occupational stress experienced by the mother and we finish this chapter by looking at the significance of work complexity.

2.3.1. Full time or part time work

The amount of time mothers spend away from their young children has been hypothesised to be a major factor influencing children's wellbeing in many studies. The basic assumption has been that the longer the hours the mother works, the more the time the child spends in non-parental care and the less the mother-child interaction, the higher the risks for the child. Therefore whenever possible, researchers in the field differentiate between mothers with shorter and longer hours spent in employment. Here again, findings are somewhat controversial, but generally they suggest no clear disadvantages imposed on children when mother works excessively. Such an effect only seems to be present when long hours of work start in the first year of children's life or when other risk factors are also present.

For children between age 4 and 6 Parcel and Menaghan (1994) only find a negative effect of increased work hours when occupational complexity is low⁶ and work hours are exceptionally high. In particular, they show that compared to children of mothers working 35-40 hours a week, children of those doing overwork, a greater amount of behaviour problem occurs. In a Canadian study (Nomaguchi 2006) some of the *positive* effects of maternal employment are only revealed when mother works part-time as opposed to full-time. Four year old children of part-time (less than 30 hours per week) working mothers are found to show less hyperactivity than children of non-working mothers. For children of full-time working mothers however, no similar advantage is found. Also, other behavioural outcomes occur similarly no matter, how long hours the mother works. In their work on home environment, Menaghan and Parcel (1991) for example found no significant associations between number of hours mother works per week and quality of home environment in families of young children. Similarly, Han and colleagues (2001) report no significant differential impact of working hours on a range of behavioural problems between the age of 3 and 8.

2.3.2. Interrole conflicts

Generally, studies on employment's impact on adults' wellbeing tend to find positive effects in case of men as well as women (for a summary see e.g. Rosenfield 1989 – cited by Belsky 1990). Other studies also show that earned income has a positive effect on individual wellbeing by improving self-esteem (e.g. Mirovsky and Row 1986). However, in case of married mothers with young children, the employment status per se was not found to be strongly related to individual happiness (Hoffmann 1989). Instead, various moderating effects have been identified, that might influence the relationship between mother's employment status and her own well-being. A crucial factor here is congruence between

⁶ For more details on occupational complexity see the next chapter.

employment preferences and reality. The lack of such congruence – interrole conflict – has been identified as significantly increasing occupational stress and thus jeopardising well-being. (Belsky 1990)

Ross et. al. (1983) found for example, that employment was associated with lower distress when it was in line with individual preferences. In fact, wives' distress was lowest in this one out of the four possible configurations of preference and reality. Highest level of distress however was found among non-employed wives with a preference for employment. Working mothers preferring to stay at home were found in an intermediate position.

In a 1988 paper, Barling, Fullagear and Marchl-Dingle go further and describe significant association between mothers' interrole conflict and children's behavioural problems. They suggest that both employed mothers uncommitted to their work, and homemaker mothers with blocked employment role commitment are in a stressful situation. Without controlling for intervening factors they suggest that this can affect their parenting behaviour negatively, which in turn leads to behavioural problems of their children. On a sample of 185 5th and 6th grade children from an elementary school they show that children, whose mothers' employment and employment commitment were not congruent (i.e. either a homemaker mother with high commitment to work, or a working mother with low work-commitment), were rated significantly less attentive and more immature than those children whose mothers employment status and commitment were congruent. This study however relates older (8-9 year old) children.

In another study MacEwen and Barling also describe the mechanisms how interrole conflict and distress might influence parenting behaviour and also children outcomes (1991). They are testing the impact interrole conflict and job (dis)satisfaction might pose on children's behaviour via parenting behaviour shaped by mother's negative mood (associated with stress) and cognitive difficulties. On a sample of 147 mothers with under-16 children they find that both interrole conflicts and job-dissatisfaction of working mothers are likely to contribute to behavioural problems of the child. Especially interrole conflicts were found to apply adverse effects by increasing cognitive difficulties as well as negative mood of the mother. Out of these two, it is negative mood which seems to have a more severe negative effect on children's behaviour, not only indirectly (via the mothers' parenting behaviour) but also directly.

When reviewing this line of research however, Perry-Jenkins and his colleagues (2000) note they generally lack the effort to test recursive models, controlling for a possible reverse effect. According to this, children's behavioural problems would influence perception of work-family conflict and not vice versa.

2.3.3. Occupational stress

Although not fully independent from interrole conflict, the issue occupational stress mothers experience is often investigated separately. This line of argument suggests that “... *any effect that stress has on an individual's psychological, and even physiological functioning will ultimately influence his or her behaviour at home, and, in so doing have an impact on the family and all of its members*”. (Perry-Jenkins et. al. 2000, pp. 986.) Beside interrole conflict mentioned before, a range of potential sources of stress in the job have been identified. These include a combination of high demand and low decision latitude, depersonalisation, noxious job conditions, poor current earnings with limited opportunities for advancement, time pressure, poor quality of interpersonal relations with job supervisors and co-workers, job dissatisfaction. (Menaghan and Parcel 1990) and also increased work-family conflict (Perry-Jenkins et.al. 2000).

From the above mentioned a excellent overview of this line of research (Perry-Jenkins et.al. 2000) we are now focusing on those elements only that relate to maternal (rather than paternal) employment that are linked to mother-child (rather than e.g. wife-husband) relationships. Among these, the authors refer to a study by MacDermind and Williams (1997) carried out among female bank workers. This study suggests linkages between poor supervision at work and increased difficulty managing work and family demands, which in turn was associated with mothers' reports of increased child behaviour problems. It is suggested that this association was attributable to less nurturing parenting behaviour performed by these mothers.

Among the short-term effects of occupational stress it was described that “...*both maternal self-reports and independent observers indicated that mothers were more withdrawn from their preschoolers on days when the mothers had experienced greater workloads or interpersonal stress at work*”. (Repetti and Wood, 1997. Cited by Perry-Jenkins et.al. pp 988.) In the same study the authors also found that daily job stressors can particularly influence the parenting behaviour of mothers with higher scores on type A behaviours⁷, mothers with depression symptoms and anxiety.

It is important to note that occupational stress is not a factor equally affecting the family behaviour and thus the children outcomes for all. Not surprisingly, vulnerability to role strain and also to stress varies substantially according to family- and job-circumstances, but also personal characteristics. Number and flexibility of work hours, family size, ages of children, role commitment and involvement, occupational prestige and spouse support are among the

⁷ Typical characteristics of type A behaviour include: impatience, competitiveness, irritability, quick to anger, suspicious, hostile, driven to achieve, aggressive, perfectionists, highly successful but dissatisfied, try to do more than one thing at a time, preoccupied with deadlines, rapid and loud speech, often interrupt others

factors found to affect one's experience of role strain. Especially spouse's support and marital quality seem to behave as important buffers to reduce experienced role strain. (Perry-Jenkins et.al.)

2.3.2. Work complexity

The nature of work a mother does might also influence her child's well-being and behaviour via the cognitive stimulus the job secures for her. In the work socialization literature it is argued that the level of substantive complexity and opportunities for self-direction a job can provide might enhance individual' intellectual capacities, problem solving abilities and generally a more flexible and open relation the environment. Capacities improved in the work place can be carried over to other situations as well. Empirical evidence tends to support this line of argument. General findings include that jobs with a low level of substantial complexity have negative effects on adults' intellectual flexibility (Kohn and Schooler 1983), they are also associated with lower self-esteem, self-efficiency and personal control (e.g. Gecas and Seff 1989, Mortimer and Borman 1988– Cited by Menaghan and Parcel 1990)

From our point of view, the question is, how these negative effects of low level of work-complexity influence mothers, and especially, whether the negative effects are indeed carried over to the mother-child interactions and consequently to socioemotional child outcomes. This chain of associations has been in the focus of various studies carried out by Menaghan and Parcel in the 1990s. In some of these studies the authors were exploring children's home environment as a factor of maternal working conditions, while in other ones direct linkages between occupational circumstances and children outcomes were explored. In either case, substantial effort was taken to separate the direct and combinative effects of work conditions on children's behaviour. It is important that in their models the authors consequently included variables that might indicate selection effects into more complex jobs – e.g. mother's education. Consequently, associations highlighted in these studies are all net effects of working conditions.

In their 1991 study based on NLSY data Menaghan and Parcel are modelling home environment of young children on a broad range of maternal, child and family characteristics and also maternal working conditions. Home environment as specified here includes cognitive, social and physical dimensions of the home and is expected to heavily effect child development⁸. Their findings revealed a clear linkage between the complexity of mother's work and home environment. This association was net of a number of other maternal characteristics, including education, cognitive skills and psychological resources. In a later study Menaghan and Parcel investigate the impact of changes in the employment situation on

⁸ For details on this measure see Section III.

changes in home environment. (1994) Although they are unable to identify any association between changes in the complexity of work performed by the mother and changes in home environment, they clearly show that entering a job low in complexity might impose negative effects on the environment.

Analysing influences on children's behavioural problems at the age of 1 and 3-4, Menaghan and Parcel (1994) find no direct impact of maternal work complexity. Instead, occupational complexity interacted with age, education and also maternal work hours. Low level of occupational complexity was found to have an adverse effect on the children of older, and also of highly educated mothers, both suggesting that mother's status incongruence or frustrated expectations to the child might affect their children's psychological outcomes. Moreover, when occupational complexity is low, overtime working hours also have a negative effect on children.

2.4. Social standing of the family

Family income has an obvious effect on mothers' employment, with low income putting a pressure on mothers to return to work soon after birth. This is especially the case where no paid parental leave is available. Among possible consequences of low income on children's wellbeing the literature suggests that mothers in such families might experience greater financial strain which might lead to stress and negative parental functioning, also dysfunctional parenting behaviour. Moreover, this influence is often expected to be stronger in case of working mothers as opposed to non-working ones. The counter-argument goes however that it is children in more affluent families who have to lose more when maternal care is substituted with non-parental one. This is because their typically better educated mother could look after in a more skilled way and be more nurturing. (Han et. al. 2001) The only significant association Han and colleagues find in this respect is that children in high-income families exhibit more externalizing problems at age 4 if their mother worked in their 1st year.

Findings from other studies however seem to support the opposite line of argument. Youngblade (2003) for example also includes a two-categorical social class control in her analysis and finds that working class children whose mothers were working in the first year of life are more likely to be nominated by their peers for hitting at the age of 8-9 than either working class children whose mothers was not working, or middles-class children, no matter if their mother had been employed or not.

Without making comparisons between mothers of lower and higher income (or higher and lower level of education), but concentrating on low-wage mothers only, several circumstances have been identified, under which children's interest might be injured by

maternal employment. Parcel and Menaghan (1997 and 2007) for example conclude that returning to work for welfare mothers is not necessarily a desirable solution from the children's point of view. They find that when such mothers can only return to jobs low in occupational complexity, then quality of home environment, which is an important determinant of young children's well-being, will decrease substantially. Joshi and Bogen (2007) on the other hand are drawing attention to the risks of non-standard working hours among low-income mothers. From a study comparing children of low-income mothers with standard (typically between 8am and 6pm) and non-standard (any other) schedules, the members of this latter group show significantly more externalising and also internalising problems and they also tend to prohibit less positive behaviour than their counterparts. These negative impacts were partially mediated via increased parental stress among mothers working non-standard hours.

It has to be kept in mind however, that studies investigating the impact of social class do usually not control for type and quality of alternative child care – a possible intervening factor that might well be at least partially responsible for poor outcomes identified among the lower classes.

2.5. Maternal care

Quality of maternal care is included in this review as the last factor influencing children's psychological outcomes. This is despite the fact that it is very likely to be the most important one. Our reason to leave this to the end is twofold. Firstly, quality of maternal care is very difficult to measure in large-scale surveys discussed here, and relevant indicators are included in very few research only. Secondly, mother's work-experiences as discussed in the previous section do a large extent interrelate with quality of maternal care – in fact, the impact of mother's work experiences on children's psychological well-being are typically considered to be mediated via the quality of maternal care. This way, much of this issue has already been covered together with maternal employment circumstances. Here we only discuss the issue of transferability of quantity and quality of maternal time.

We have seen before how attachment theory argues for the importance for secure relationship with a caregiver, preferably with the mother. It is not altogether clear though, whether only quality of mother-child interactions or also amount of time spent with the mother affects this relationship and – as a consequence – children outcomes. Obviously, mothers' employment is strongly related to the amount of time spent with children. Several studies therefore have looked at the time-use of working and non-working mothers. Findings from these have rather consistently shown that working mothers can do a great deal to compensate with focused time with their children. (E.g. Booth et al. 2002 – cited by

Nomaguchi 2006) It is still the case though, that mothers working full-time spend less focused time with their children (Sayer et. al. 2004 – cited by Nomaguchi). When however number of mothers' working hours is held constant (as well as a characteristic of child care and other factors) the frequency of positive mother-child interactions is related to children's lower hyperactivity, less physical aggression and more prosocial behaviour at age 2. (Nomaguchi 2006) This suggests that quality of time spent with the children can to some extent compensate for quantity.

3. Summary of main findings

In this review we have shown that according to the existing research evidence early maternal employment *per se* has a clear adverse effect on children's socioemotional development only if it happens in the first year of children's life. Consequences of later employment (eg. When the child reaches 4 year of age) might even include positive ones. In itself, it also seems to do very little difference whether the mother works full time or part time. It is only extremely long hours that might cause concern. There are however other circumstances that might divert the impact of maternal work into a negative direction. These include incongruence between maternal employment preferences and actual behaviour, high level of occupational stress, low income and low complexity of work. When these circumstances are present, children of working mothers are more likely to show behavioural problems than their counterparts.

Possible negative effects of maternal employment can in theory be overcome by a high quality alternative care and also with much attention given to the child in the restricted amount time the mother can spend with her/him. Unfortunately, these "solutions" are hard to bring to life. In the reality, risk factors tend to accumulate and positive factors are not easily available for those most in need. Poorly paid jobs are typically low in complexity and also produce a high level of stress. For low income parents affordability and also availability of high-quality childcare care is restricted in many countries; and low income, poorly educated mothers also often lack the skills to build a secure, warm relationship to their child.

When considering findings from the literature available we need to be very cautious about the deficiencies of the existing research. Now we want to draw the attention to three issues that require further considerations. Firstly, although a number of researchers have pointed at the potential logged effects maternal employment can have, only a small proportion of empirical studies have dealt with these. These few studies however have been very successful in identifying adverse effects that only show themselves a few years after the early employment phase. This finding should make us aware of the possibility that concerns about

maternal employment are not necessarily without a base even where no instant negative effects have been shown in existing research.

Secondly, even though much effort has been taken to distinguish between the impact of maternal work in the first year of children's life and later employment, and even different phases within the first year have been identified, very little has been done about differentiating between the 2nd or 3rd year, or even later years. Although Belsky and Eggebben (1991) concluded that starting employment in the 1st or 2nd year lead to very similar effects, we could not find any other analyses that would either justify or question this finding. Also, we are not aware of any studies differentiating for example between maternal work in the first or the second half of the 2nd year of children's life or making similar distinctions in the 3rd year. Given the crucial importance of the first 3 years of children life from the aspect of their successive development, as well as the child-care systems in many countries that handle this age-group separately from the older ones, it seems to be urging to gain a more detailed picture on the (possibly) differential impact of maternal employment in these years.

Finally, we again want to draw the Reader's attention to the difficulties of generalising findings from one country to others. Surely, the complexity of the investigated processes, the manifold interrelations between various social, psychological and economic domains are such, that individual county-characteristics can easily divert the processes explored in a different setting.

II. SELECTED PAPERS IN DETAIL

Barling, Julian; Fullagar, Clive; Marchl-Dingle, Jenifer (1988): Employment Commitment as a Moderator of the Maternal Employment Status/Child Behavior Relationship
Journal of Organizational Behavior, Vol. 9, No. 2 (Apr., 1988), pp. 113-122

This paper tests the suggestion that the interaction of employment status and employment commitment is an important predictor of children's behavioural outcomes. It is argued that both employed mothers uncommitted to their work, and homemaker mothers with blocked employment role commitment are in a stressful situation. This can affect their parenting behaviour and might lead to behavioural problems of their children.

Data for the purposes of this study was collected from both mothers and teachers at an elementary school in a middle socioeconomic class area in the USA. Mothers' and teachers' ratings on 185 fifth and sixth grade children (Mean age = 9.42 year) was collected using Quay and Peterson's (1983) 89 item Revised Behaviour Problem Checklist. From this, separate scales on conduct problems, socialised aggression, attention-immaturity, anxiety and motor excess behaviour were derived. For each child, separate assessments from both her or his mother and her or his teacher were available.

Mother's employment role commitment was measured on a six-item scale with slightly different wording for working and non-working mothers. Concerning maternal employment, differentiation was only made between non-working and working mothers – irrespective of the number of hours they work. In the ANOVA tests carried out, child's sex and age, and also mother's age, the number of children at home, mother's education level and position in the employment hierarchy were controlled for.

As expected, findings did not suggest any significant connection between maternal employment and any of the child's behavioural measures. However, when interaction terms between mother's employment and employment commitment were added to the models, some interesting patterns emerged. In particular, children of mothers with incongruent employment status and work commitment were less attentive and more immature than the children of mothers in a congruent work situation. These findings hold irrespective if we look at the mothers' or the teachers' ratings. Furthermore, the level of inattentiveness and immaturity found in this negatively affected group was in fact higher than in a sample of 24 children, found in another study with externalizing psychiatric disorder (Quay and Peterson 1983). This finding is evaluated as a signal of rather serious consequences of incongruent maternal situation. Beside attentiveness and maturity, no other dimension of children's behaviour was found to be related to mother's employment or mother's work conflict.

Belsky, Jay and Eggebeen, David J. (1991): Early and Extensive Maternal Employment and Young Children's Socioemotional Development: Children of the National Longitudinal Survey of Youth *Journal of Marriage and the Family* 53,4 (November 1991): 1083-1098

In this study Belsky and Eggebben are using the US NLSY mother-child dataset to determine early and extensive maternal employment's impact upon various factors of children's socio-emotional behaviour. Their study is unique in the series of research on this survey in examining the differential impact of mother's work began in the second year of the child and work began earlier rather than concentrating on maternal work in the child's first year of life.

From the 1986 survey of the National Longitudinal Survey of Labor Market Experience of Youth (NLSY) 1248 white and black mothers with children between the age of 4 and 6 were selected. The sample this way is representative of children born to a national representative sample of American women aged 21 to 28 on 1 January 1986. Due to the relatively young age of the panel-members in 1986, children born to poorer, younger, less-educated and minority mothers are somewhat overrepresented here.

As outcome variables, five measures of socioemotional functioning based on the behaviour index items in this survey were created: compliance, inhibition, attachment insecurity, sociability and behaviour problems. The sociability measure was constructed from the interviewers' assessment on the child's attitude, while the other four ratings were based upon maternal ratings of behavioural descriptors. With the help of factor analysis two main factors could be identified. The first was decided to reflect general psychological and behavioural (mal)adjustment, and the second to reflect shyness. In the subsequent analyses adjustment was handled as the outcome variable, while shyness was expected to behave as a mediating factor between mother's employment and socioemotional behaviour. Following the argument by Kagan and colleagues' (1978) it was hypothesised, that temperamentally shy, inhibited and / or fearful children might find early nonmaternal childcare particularly stressful and therefore suffer more if their mothers work.

Maternal employment in this study was assessed by a three-categorical measure, capturing the timing as well as the intensity of mothers' work. To the first category belonged children, whose mother were classified as not working in any of their first three years of life, to the second one those whose mothers had started working in their second year of life, and finally to the third category belonged children whose mothers worked full-time in their first year of life and also extensively thereafter. (Children not fitting into any of these categories were excluded from the analysis.) After excessive analyses of the interrelationships between the potential factors influencing employment decision and being also linked to child development, child birth order, maternal education, family poverty status, maternal intelligence, child gender, age and race were added to the OLS regression models.

In the first set of the estimations, the effect of first-year full-time work on adjustment was tested against the effect of second-year full time work as compared to no work at all. This led to the conclusion that timing of maternal employment does not make much difference in the child-wellbeing as long as it is started within the first two years after birth. In the subsequent analyses the two categories of working mothers were combined and tested against the group of mothers not working in the first years of the children's life. Inclusion of the maternal employment factor in its two-categorical version in the estimations resulted in a statistically significant negative effect on the social adjustment composite measure. In fact it produced the strongest effect on adjustment, exceeding even the impact of poverty and maternal education. Besides, the interaction effect between shyness and mother's employment also proved significant in the main model with shy children being more sensitive to early maternal employment. A closer look at this connection revealed however, that the negative effect of early and extensive mother-work is not restricted to particularly shy children only, although they are clearly at an above-average risk in this respect.

In the follow-up, the composite measure of adjustment was separated into its three components and regression analyses were re-run separately on all the three measures. This way neither the main effect nor any interaction effect of maternal employment was found to influence behaviour problems and insecurity to a significant extent. The main effect of maternal employment was only revealed to relate negatively to the non-compliance component of the original adjustment measure. When a rescaled measure of compliance was investigated, it was revealed that it is not the case that traditional, in-home rearing is related to extreme levels of compliance. Instead it is extensive maternal employment that is linked to unusually high levels of non-compliance.

Wen-Jui Han, Jane Waldfogel, Jeanne Brooks-Gunn (2001) The Effects of Early Maternal Employment on Later Cognitive and Behavioral Outcomes
Journal of Marriage and Family 63 (2) , 336–354

This study of Han and colleagues is another piece of the research series investigating maternal employment's impact on children's wellbeing on NLSY data. It is unique in following one groups of children from ages 3 and 4 to ages 5 and 6 and then to ages 7 and 8, to assess potential logged effects of early maternal employment. Besides socioemotional outcomes, the study also deals with cognitive development – but the description of this part is not included in this summary.

White and African American children in the NLSY who had no missing data on any outcome variables from ages 3-4 in 1986 to ages 7-8 in 1990 were selected for the purposes of the analysis. The resulting sample includes only 244 white and 218 African American children.

Maternal employment was measured in a fairly detailed way. Altogether six measures were created: mother employed at all during the first year after birth or not; mother employed during the 2nd or 3rd year or not; employed after age 3 up to the year before assessment; currently working; quarter of the 1st year when maternal employment began; working full-time (more than 21 hours per week) or part-time in the first year. Beside, also type of child-care applied dominantly in the first year of life was controlled for, the three categories being parental care, nonrelative care and centre care. Further independent variables included in the models related to father's presence, father's employment status and home environment as measured by the Home Observation Measurement. As socioemotional outcome measure, the Behavioural Problems Index was used in its composite form and also two subscales (externalizing and internalizing problems) separately. These measures were collected when children were 4 or older. Ordinary Least Square Regression was estimated firstly with main effects only, then with interactions effects included.

Analyses revealed no statistically significant effect of maternal employment per se on behavioural problems. Only when timing of employment was included in the models did the authors find that entering the labour force before the 4th quarter of the child's life does indeed increase the number of behavioural problems, but only at the age of 7 and 8. Concerning the specific problems of internalizing and externalizing, 1st year maternal employment and entering the labour market early in the 1st year both have significant on externalizing problems only, at age 4 as well as at age 7-8. Further findings include a statistically significant interaction effect between family income and maternal employment that suggests that children from high-income families exhibit more externalizing problems at age 4 if their mothers worked in the 1st year. There was however no significant difference found between boys and girls in the way how maternal employment effects their later development. In case of African American children, no significant effects of 1st year maternal employment whatsoever were found.

Joshi, Pamela; Bogen, Karen (2007): Nonstandard Schedules and Young Children's Behavioral Outcomes among Working Low-Income Families. *Journal of Marriage and Family*, v69 n1 p139-156 Feb 2007

This article is looking at a critical aspect of employment characteristics: nonstandard schedules. Standard schedules are defined as work performed regularly on weekdays during the hours between 8 a.m. and 6 p.m. Any other setting let it be evening, early morning, night or weekday schedule, or any irregular combination of these is considered as non-standard. It is suggested that non-standard working hours have substantially different meaning in low-income occupations than in the middle class ones. While non-standard scheduling of white collars' work tends to offer flexibility and the opportunity of self-direction, in low-wage jobs it

is typically associated with the lack of these. In the USA, demand for services at night and also weekends have expanded and young mothers from low-income families were found to be over-represented in the sector. Concerns are raised about the increased difficulties of work-family adjustments, child-care arrangements and also a higher level of psychological distress of the parents in these occupations and also a consequential negative effect on children's behaviour in such circumstances. In this study therefore direct effect of non-standard schedules as well as potential indirect effects mediated via job-stress on children behaviour is examined. Possible interaction effects between non-standard schedules and gender of the child and also between non-standard schedules and family composition are tested.

Data was taken from a Three-City-Study in 1999, involving low-income families from Boston, Chicago and San Antonio with at least one child aged 0-4 or 10-14 years. Families in the original sample were selected at random in low- and moderate income neighbourhoods, but only families not over the 200% of the federal poverty line were interviewed. In this particular analysis only families with children been 2 and 4 were included (n=206), whose mothers worked at the time of the interviews. Child behavioural outcomes were measured by two subscales taken from the Child Behaviour Checklist, tapping externalising and internalising problems. In addition, a composite measure of prosocial behaviour was also applied. This too, was based on maternal reports. The parenting stress measure, based on 7 plus 5 items, was intended to identify everyday stress and satisfaction associated with parenting young children. Nonstandard work schedules could only be assessed by a dichotomous measure, differentiating between standard and non-standard hours, the latter combining night, weekend, rotating and split shift arrangements.

Other work characteristics were also added to the models. These included work hours and whether the employer provided health insurance (an indicator of job quality). As aspects of family composition, presence of child's biological father and also the presence of any other adult household member were included in the models, as well as an indicator if any of the adults present earned an income from wages in the month prior to the interview. As in most studies investigating children's behavioural outcomes, mother's age, race, education, city of residence, the number of children in the household, age of child, birth weight and being born early were also controlled for. Beside, additional controls for mother's welfare status, mother's depressive symptoms and her access to social networks were also included. In the first of the ordinary least square regression models, behavioural outcomes were regressed on the main effects of the listed factors, excluding parental stress. Paternal stress measure was only added in the second step, to determine its role in mediating impact of non-standard work schedules.

As expected, mother's non-standard schedule was found to be associated with a statistically significant growth in children's behavioural problems, increasing externalising as well as internalising problems and also reducing positive behaviours. Effects size varies

around two fifth and one third of a standard deviation in the related behavioural measures. When parental stress is added to the models, it is revealed that in the case of externalising behaviour and prosocial behaviour, a part of this effect is mediated via increased stress, while in the case of internalising behaviour problems all the negative effect of non-standard schedules is attributable to parental stress. Finally, interaction effects show that the impact of non-standard schedules on internalising problems depends on household-composition, with more negative impact in single-mother and also in two-parent families, but with fewer problems in households where an additional adult is also present. The interaction effects between child's gender and mother's schedules suggest that externalising behaviour is more pronounced for girls than for boys whose mothers work non-standard hours. This finding is likely to reflect the increased concerns and efforts of controlling boys but not girls when mother's time is scarce.

MacEwen, Karyl E. and Barling, Julien (1991): Effects of Maternal Employment Experiences on Children's Behavior via Mood, Cognitive Difficulties, and Parenting Behavior *Journal of Marriage and the Family*, Vol. 53, No. 3 (Aug., 1991), pp. 635-644

In this study potential consequences of interrole conflict and job (dis)satisfactions of mothers are analysed. The authors of this study argue that mothers' experience of employment is more predictive of children's outcomes than mothers' employment status. In particular they hypothesize, that mother's negative employment experiences, which appear in interrole conflicts and employment dissatisfaction, lead to cognitive difficulties and also negative moods. These latter ones in turn effect mothers' parenting behaviour and make rejecting and punishing behaviour more frequent. This happens because mothers struggling with an excessive workload in the workplace as well as at home, and being in a bad mood are likely to loose concentration and attention. As a consequence, children of such mothers are likely to show behavioural problems. Although research design in this study might raise some concerns, the findings are highly supportive of the hypotheses.

Sample was drawn on a voluntary basis. Female employees of a local hospital were invited to participate in the study and mothers were asked to randomly (!) select one of their children to include in the assessment. Finally 147 mothers with under-16 children were selected, the mean age of children being 8,2 (SD=6,1). The sample of mothers was more highly educated than the national average.

As control variables mother's age and education were added to the models. Beside, models included a series of psychological scales, each validated in earlier studies. Interrole conflicts were measured with an 8-item scale. Questions here related to the "experience pressures within one role that are incompatible with the pressures that arise within another

role” (Kopelman et al. 1983, p. 201.) Job-satisfaction was assessed with a 6-item scale. Further measures included scales for cognitive difficulties and negative mood (latter one often associated with stress). Parenting behaviour measures were based on mother’s self-assessment on both punishing and rejecting behaviour of herself, and children’s behaviour was measured on an 89-item scale. Out of the six subscales that could be derived from these, three were applied in the present study: conduct disorders - attention problems / immaturity, anxiety / withdrawal.

To form a path-analysis, a series of hierarchical linear regressions models were estimated. Final results show that both interrole conflicts and job-dissatisfaction of working mothers are likely to contribute to behavioural problems of the child. These relationships are mediated via the personal strain experienced by the mother and also by parenting behaviour. Especially interrole conflicts were found to apply adverse effects by imposing significant effects on cognitive difficulties as well as negative mood. Out of these two, it is negative mood which seems to have a more severe negative effect on children’s behaviour, not only indirectly, via the mothers’ parenting behaviour, but also directly.

Menaghan, E.G., & Parcel, T.L. (1991). "Determining Children's Home Environments: The Impact of Maternal Characteristics and Current Occupational and Family Conditions." *Journal of Marriage and the Family*, 53:417-431.

In this study Menaghan and Parcel are trying to establish connections between two important intervening factors potentially linking maternal employment and children outcomes: occupational complexity and home environment. Work socialization theory suggests that complexity of the occupation, that is an increased opportunity for self-direction and problem solving at work promote greater intellectual flexibility, more liberal social views, a greater sense of control over one’s life and more self-directing behaviour outside the sphere of work as well. Through all these factors, working conditions have an impact on parenting behaviour, child-rearing values and also home environment. Home environment as applied in this study is a complex notion encompassing physical, cognitive and also emotional elements of the home. Home environment has been shown to influence children’s cognitive as well as socioemotional development in previous studies.

Data used here was taken from the NLSY, and employed mothers who had children between the age of 3 and 6 at the time of the 1986 survey were analysed. Where more than one child belonged to one mother, the youngest one was selected. Finally, 795 employed mothers with young children were included in the analyses. Home environment, a crucial idea in this work was assessed with the help of the Home Observation for Measurement of the Environment (HOME) scales, developed by Caldwell and Bradley (1984). The HOME scales were originally developed to identify children in significant developmental risk. The

scales are based partly on maternal self-assessment and partly on interviewer observations and represent physical, social and cognitive aspects of the home environment.

The central explanatory variable in this study was maternal working conditions, involving wage level, length of work weeks and occupational complexity. Occupational complexity was assessed by a scale based on 19 items, describing occupational content along the dimensions of direction, control, planning, abstract versus routine activities etc. Child-characteristics included in the models were sex, birth weight and health of the child. Besides, an unusual broad range of maternal factors were added to help to separate the impact of mother's employment characteristics from that of other possible determinants. Maternal control variables included maternal ethnicity and age; educational level of the mother's mother; presence of father in mother's childhood family, mother's self-esteem and maternal locus of control measured on appropriate psychological scales, mother's level of intellection; maternal years of schooling. Finally, family characteristics at the time of the survey were also controlled for, including marital status, spousal earnings, presence of mother's own mother in the household and number of mother's children in the household.

After including all the various sets of explanatory factors in the OLS models, out of the three work condition aspects (wage, working hours and occupational complexity), only occupational complexity was found to have a significant, positive direct effect on home environment. From the changes in the parameters of maternal education when work condition measures are added to the models it can be seen that some, but not all of the effect of maternal education on home environment is mediated via working conditions. Based on the assumption that the effects of maternal occupation might vary with the level of demand at home, a series of interaction effects between employment experiences and family characteristics were tested. Out of the six separate hypotheses looked at this way, only one was justified, suggesting that long working hours have a negative effect for mothers with a greater number of children. The interaction effects between mother's psychological characteristics and employment experience were also tested. Again, only one of the possible interactions proved to be significant, providing a weak support to the hypothesis that the positive effect of high-self esteem was stronger for those working longer hours. Stability of main findings across various groups (by child's gender, ethnicity and age) was tested and no significant variation was found.

Menaghan, E.G., & Parcel, T.L. (1995). "Social Sources of Change in Children's Home Environments: Effects of Parental Occupational Experiences and Family Conditions Over Time." *Journal of Marriage and the Family*, 57:69-84.

In this study changes in home environment – an important determinant of children's well-being – is investigated as a function of changes in maternal employment and also in family

structure. Early adult years tend to involve major changes in individuals' working patterns as well as their family settings. It is suggested in this study that psychological effects, e.g. potential stress generated by major changes, as well the necessity of child-care rearrangements and the difficulty of adoption to a new situation might all impose some effect on childrearing behaviour of the parents and also on home environment. Major changes in these conditions in a two-year time span are investigated and related to changes in home environment during the same period. Beside additive effects, multiple effects of the key aspects of employment and family life are also considered.

Data from the 1986 and 1988 mother and child supplements from the NLSY is used and mothers with at least one child aged 3 through 6 in 1986 were selected for the analyses. N=1403. Home environment was assessed by age-specific HOME scales. The 1986 values of the scale were included as an explanatory variable in the models, with the 1988 value being the outcome measure. Beside employment status, three aspects of maternal education were also considered, and in all these, changes between 1986 and 1988 were assessed. Concerning employment status, four categories were created: started employment, stopped employment, remained employed and remained non-employed between the two time-points. Changes in the variable of work complexity, work hours and wages were tapped by including the relevant values at both points of time in the models. Similarly to employment status, changes in family composition were also measured in a 4-category grouping: marriage began, marriage ended, remained unmarried, remained married. Among the time-dependent factors, birth of additional child was also included in the estimations. To the final multivariate regression models controls for parents' educational attainment, siblings present at Time 1 and children's age, ethnicity, gender, health and birth weight were added.

Concerning the impact of employment factors, the small negative effect of entering the labour market or remaining not-employed are the only statistically significant results in the main models that included main effects only. These are to be understood in comparison to those mothers who remained employed during the two years period. Contradicting the basic hypotheses, none of the changes in occupational conditions was found to have a significant effect on changes in home environments.

To specify the conditions under which occupational changes might have a more substantial effect on changes in home environments, four sets of interaction effects were tested. Firstly, it was evaluated whether the birth of an additional child would be more negative in certain situations than it is otherwise. However, no such setting could be identified. Secondly, it was tested whether changes in father's employment conditions has an increased effect when mothers were not employed or stopped working – but again, no significant association was found. Concerning the interaction effects of changes in mothers' employment status and her occupational characteristics it was revealed that the effect of

mothers' starting employment depends on the quality of the job taken. In particular, although no significant effect of starting a job which is above-average in terms of complexity was found, a job with average or even lower level of complexity significantly increases the loss in the quality of home environment. Another finding was that having a job with high wages mitigates the negative effects of remaining unmarried. Finally, the combination of persistent single status and persistent non-employment significantly increases the risk of substantial drop in the quality of home environment. When calculating the potential gains / losses for various groups of mothers from the regression models, the greatest loss in home environment quality was revealed in the case of consistently unmarried mothers, who entered a job with low level of complexity and low wages. This finding suggests that maternal employment is not necessarily better than non-employment, at least not from the children's point of view.

Nomaguchi, KeiM. (2006): Maternal Employment, Nonparental Care, Mother-Child Interactions, and Child Outcomes During Preschool Years. *Journal of Marriage and Family*, Volume 68, Number 5, December 2006 , pp. 1341-1369(29)

Unlike in the majority of studies in the field, in this analysis Canadian children are examined. In the second half of the 20th century, just like in the USA, a rapid increase of the portion of working mother could be witnessed in Canada, hence the interest in the consequences on children's well-being. Specialities of this study are the complexity of data used and the strong focus on the intervening mechanisms that might explain connections between maternal employment and children outcomes.

Data in this study was drawn from the Canadian National Longitudinal Survey of Children and Youth. Children born in 1994-1995 were selected for the purposes of the analysis, and interview-data with their mothers from the years when the child turned 2 and 4 were used. Final sample included 1248 children. Selection bias was tested. Modelling method was OLS and multinomial logistic regression.

Dependent variables were taken from mother's assessment of their children's socioemotional behaviour. With factor analyses, five dimensions of children's socioemotional wellbeing were identified at the age of 2 and also 4: hyperactivity, physical aggression, prosocial behaviour, unhappy mood and anxiety. The various measures yielded in qualitatively different findings. As the only cognitive measure, Peabody Picture Vocabulary Test-Revised was applied at age 4⁹.

The main independent variable was of course mother's employment status in the 12 months before the survey. Three categories were identified: full time year round (30 hours or

⁹ Related findings not reported here.

more per week and 48 weeks and more per year); employed part time or part year; and not employed. Control variables included mother's age; mother's foreign-born status, mother's education, father's presence and employment status, father's earnings, child's gender, child health status; number and age of siblings; province of residence; changes in father's presence and employment status; changes in father's earnings.

As mentioned before, much attention was given to possible intervening factors between mother's employment and children outcomes. The first set of these were focusing on type of child-care arrangements. Firstly, differentiation was made between parental care, relative care, nonrelative care in the home and centre-based types of child-care. Beside, number of hours spent in school settings per week was also included in the models, school-settings meaning kindergarten, preschool and playgroups. Finally, participation in organised activities, such as sports or any organised physical activities with coach instructor, lessons or instruction in music, art or any other nonsport activities in the previous 12 months were measured. A second set of intervening variables was controlling for mother's behaviour with the child. Among these, positive interactions with mothers and reading with parents were taken into account. Finally, number of hours spent watching TV (only at the age 4) was also measured. In models for age 4, also measures of the dependent variables and maternal employment status, and other variables for age 2 were included.

Findings in this study suggest no direct relationship between mother's employment status and children's socioemotional behaviour at age 2. This is irrespective whether one controls for any set of intervening variables even though some measures of child care and mother-child interactions did have a significant effect on children's socioemotional well-being. Centre-based day care was related to less anxiety and the frequency of positive mother-child interactions was related to children's lower hyperactivity, less physical aggression and more prosocial behaviour.

At age 4, findings are more complex. Children with mothers working part-time (but not full time) for example were found to show less hyperactivity than children of non-working mothers, but only when the various measures of child-care arrangements (not significantly related to hyperactivity themselves) are controlled for. Concerning aggressive behaviour, mothers' current employment seems to have a positive affect with children of full-time working mothers being the least aggressive. This relationship remains stable whether one controls for any set of intervening variables or not. At the same time however, mother's earlier employment status has an adverse affect, with children whose mothers worked either part-time or full-time when they were 2 being significantly more aggressive than their counterparts. Results for children's prosocial behaviour clearly show the positive effects of mother's employment, let it be part-time or full-time. This relationship becomes more pronounced when a number of positive mother-child interactions are controlled for.

Maternal employment did not show any significant relationship with children's unhappy mood regardless if mediating factors are included in the model. Finally, maternal employment was only related to children's anxiety, when types of childcare, hours spent in school settings and participation in organised activities were controlled for. In these models, children of working mothers were found to be less anxious than children of homemaker mothers.

Parcel, Tony, L. Menaghan, Elizabeth G. (1994): Early Parental Work, Family Social Capital, and Early Childhood Outcomes *The American Journal of Sociology*, Vol. 99, No. 4 (Jan., 1994), pp. 972-1009

In this study, Parcel and Menaghan are emphasising family social capital and parental working conditions as important intervening factors in the maternal work-children outcome relationship. According to their theoretical framework, the amount of time mothers spend away from their young children might reduce family social capital and therefore have a negative effect on later children outcomes. They also argue that working conditions of the parents (and not the mother only) shape their child-rearing values and influence the kinds of behaviour they encourage in their children. Consequently, children outcome are likely to vary not only by amount of time the mother (or the father) spends working but also by occupational complexity.

For the purposes of the analysis the 1986 mother and child supplements to the NLSY is used. From the database employed mothers who were living together with their 4 to 6 years old children in 1986 were selected. The resulting sample included 526 mothers with young children. Data was weighted to correct for initial oversampling of some groups.

Children outcomes in this study are measured by the Peabody Picture Vocabulary test (not discussed here) and a 26-item factor-based scale constructed from mother's perceived behavioural problems of the children at the time of the assessment. Behaviour problems tapped this way are typically minor ones, relatively common in children. They include anxious-distractable behaviour, "acting-out", or aggressive behaviour, etc.

Maternal (and also paternal) employment patterns were measured in a rather complex way. Differentiation was made not only by amount of time worked (1-20 hours, 21-34 hours, 35-40 hours, 41 hours or more), but separate measures were included for the first year of the child's life, across the first three years of life and for 1986. Occupational complexity at the time of the survey and also earlier in the child's life was assessed on a 19-item based scale. Items included measures of training and education, required direction, planning, control etc. involved in the job. Further control variables included hourly wages of both parents, marital status of the mother at different time-points of the child's life, age and number of siblings,

maternal ethnicity, maternal and paternal age and schooling, maternal cognitive skills, maternal self-esteem, maternal internal locus of control, whether mother lived in a two-parent family at the age of 14, maternal grandmother's schooling, child gender, child health problems, child's shyness (assessed by the interviewer), child's birth weight, type of child-care. Besides, the complex measure of home environment was also included, evaluating level of cognitive stimulation at home, physical environment and also warmth of maternal response to the child.

All in all, early maternal employment does not show any effect on children behavioural problems. A significant effect of current working schedules only occurs when interaction effects with current occupational complexity of the mother is assessed. It is found that when occupational complexity is low, then the less the number of hours worked, the less is the adverse effect on children's behaviour. Number of hours makes less difference when complexity of occupation is average, except that some benefits occur for moderate part-time schedules. Finally, some benefits of both moderate part-time and overtime schedules occur relative to full-time schedules when occupational complexity is high. Type of child-care did not seem to influence the mother's employment-child outcome relationship in this study.

Youngblade, Lise, M. (2003): Peer and teacher ratings of third- and fourth-grade children's social behavior as a function of early maternal employment. *Journal of Child Psychology and Psychiatry*. 2003 May ;44 (4):477-88

In this study long-term socioemotional effects of maternal employment in the first year after birth are investigated with special attention given to the mediating effects of gender of the child, social class and stability of child care arrangement. Concerning stability of child care Youngblade suggests that frequent changes in childcare arrangements might explain some of the associations between maternal employment and children behavioural problems.

Sample members for the purposes of this study were invited from various schools in a mid-sized industrial Midwest city in the USA, Out of the 365 participating mothers 171 married ones, who had a stable employment history (i.e. no changes in their labour market status in the preceding 3 years) were selected. These women reported about their third- or fourth grade child, being 8,59 years old on the average. Between the selected subsample and the rest of the sample no statistical differences were found in terms of gender, ethnicity, mother's education or mother's social class.

Mother's employment status in the first year after birth was considered as "working" only if she started working within the first 3 months after birth and remained employed for at least the end of the first year. Sample size did not allow for any finer differentiation by employment status. Assessment of socioemotional well-being at the age of 7-9 was based on a

38-item teacher rating, leading in the end to five subscales on acting out behaviour, shyness and anxiety, frustration tolerance, positive assertiveness and peer social skills. Besides, also data from peers were collected, resulting a likeability index and peer assessed behavioural problem scales on “hitting”, “meanness”, “helpfulness” and “shyness”. Stability of child care arrangements within the first year of life was assessed by number of the different types of arrangements the mothers made use of during this time. Obviously, the higher this number, the more instable the arrangement was considered. Statistical method used in this study is multiple analysis of covariance (MANCOVA). Two 2 (early employment status) by 2 (gender) by 2 (social class) models were estimated, all of which included maternal current employment and ethnicity as covariates.

Out of the ten outcome variables first year maternal employment proved to have a statistically significant impact on four, suggesting that children whose mothers worked in their first year of life exhibit more acting out behaviour, have less frustration tolerance (teacher rating), and are more likely to be nominated “hitting” and “mean” by their peers. Concerning acting out behaviour, the author suggests that around 23% of the “employment” group might be at increased risk of dysfunctional acting out, if increased risk is considered to be present if someone scores above 1 standard deviation of the sample mean. Interaction effects were found to be significant only in relation to hitting behaviour according to the peer nominations. These suggest that boys and also working class children are more vulnerable to early maternal work in this respect. Findings relating to stability of care show that the negative effects of early maternal employment are at least partially attributable to child-care instability. In case of peer ratings, negative effects of maternal employment on hitting and meanness lost their statistical significance when the covariate for number of alternative childcare arrangements was added to the models. The main effects of maternal employment on teacher ratings relating acting out behaviour and frustration tolerance however remained intact, although instable child care arrangements have a clear negative effect on both.

Summarising table

AUTHOR S, YEAR	MAIN FINDINGS					
	MAIN RESEARC H PROBLEM	SAMPLE	METHOD APPLIED	OUTCOME MEASURE	IMPACT OF MATERNAL EMPLOYME NT PER SE	IMPACT OF MATERNAL EMPLOYMEN T IN COMBINATI ON WITH OTHER FACTORS
Barling , Fullagar and Merchl- Dingle 1988	The impact of combinations of employment commitment and employment status on children's behaviour	185 children aged 9.42 on average selected from an US elementary school	ANOVA	Behaviour problems assessed by the teacher and the mother	none	High level of inattentiveness and immaturity of children whose mother's commitment and status was incongruent either way.
Belsky and Eggebeen 1991	The impact of maternal work in the 1 st and 2 nd year on children's socioemotion al behaviour.	1248 mothers with children between the age of 4 and 6 – taken from NLSY supplement 1986	OLS regression	Psychological and behavioural (mal)adjustme nt factor, based on the behaviour problem index.	No difference between the impacts of employment started in the 1 st and 2 nd year. Maternal employment has a negative effect on compliance. No effect on behaviour problems of insecurity.	Negative effect more pronounced for shy children.
Han, Waldfoegel and Brooks- Gunn (2001)	Logged effects of early maternal employment on socioemotion al and also cognitive develomepnt ¹⁰ of the child.	462 children aged 3-4 in 1986 selected from the NLSY. Data from the 1986 and the 1990 surveys were used.	OLS	Behaviour problem index and two of its subscales: externalizing and internalizing problems.	Starting employment before the 4 th quarter of the child's life increases the number of behaviorial problems by ages 7-8. Early maternal employment also has a negative effect on externalizing problems at age 4 and also later.	Children from high-income families exhibit more externalizing problems at age 4 if their mothers worked in the 1 st year
Joshi and Bogen 2007	Impact of mothers' nonstandard working	206 children aged 2 to 4 in low-	OLS	Externalising and internalising problems –	Not examined. (only working mothers in the study)	Nonstandard working hours have negative effect on

¹⁰ Not discussed here

	schedules on children's behaviour in low income families	income families with working mothers. Taken from the Three-City-Study 1999		index taken from the child behaviour checklist. Additional measure of prosocial behaviour.		externalising and internalising behaviour as well as prosocial behaviour – as compared to standard working hours.
MacEwen and Barling 1991	Impact of working mothers' interrole conflict and work dissatisfaction (via, stress, negative mood and parenting behaviour) on children's behavioural problems.	147 employed women from a local hospital with under-16 children.	OLS regression, path-analysis	conduct disorders - attention problems / immaturity, anxiety / withdrawal	Not examined. (only working mothers in the study)	Especially interrole conflict but also job-dissatisfaction affects all the three behavioural factors negatively. Much of the effect is mediated via mother's cognitive difficulties / negative mood, both leading to dysfunctional parenting behaviour.
Menaghan and Parcel 1991	Linkages between employment complexity and home environment.	795 employed mothers with children between the age of 3 to 6 taken from the NLSY supplement 1986	OLS	Home Observation for Measurement of the Environment	Not examined. (only working mothers in the study)	Occupational complexity has a positive effect on home environment. Long working hours have a negative effect on home environment in families with more children.
Menaghan and Parcel 1995	Impact of changes in family structure and maternal employment on changes in home environment.	1403 mothers with children aged 3 through 6 in 1986 from the NLSY in 1986 and 1988.	OLS	Home Observation for Measurement of the Environment in 1988	Small negative effect of entering the labour market or remaining not-employed on home environment (compared to mothers who remained employed)	Entering a job with average lower level of complexity increases the loss in the quality of home environment. Altogether, the greatest loss was revealed in the case of consistently unmarried mothers, who entered a job with low level

Nomaguchi 2006	Impact of maternal employment on child outcomes – with various alternative care and mother-child interactions examined as intervening factors .	1248 mothers with children aged 2 through 4 from the Canadian National Longitudinal Survey of Children.	OLS and multinomial logistic regression	Hyperactivity, physical aggression, prosocial behaviour, unhappy mood and anxiety – based on items from mother’s assessment	No effect at age 2. At age 4 positive effect of part time work on hyperactivity; positive effect of any work on aggression, prosocial behaviour and anxiety. Negative effect of earlier work (at age 2) on aggression.	of complexity and low wages Not examined
Parcel and Menaghan 1994	Impact of amount of maternal work and maternal work complexity on children outcomes	526 employed mothers with children aged 4 to 6 from the NLSY 1986 sample	OLS	Behavioural problem index.	No effect of early maternal employment.	When occupational complexity is low, then the less the number of hours worked, the less is the adverse effect on children’s behaviour.
Youngblade 2003	Long-term socioemotional effects of maternal employment in the first year after birth looking at the mediating effects of gender, social class and stability of child care arrangements .	171 married mothers from schools in a Midwest city. Children aged 8.59 on average.	MANCOVA	five subscales on acting out behaviour, shyness and anxiety, frustration tolerance, positive assertiveness and peer social skills based on teacher rating + a likeability index behavioural problem scales on “hitting”, “meanness”, “helpfulness” and “shyness” based on peers ratings.	Maternal employment in the first year of life shown to have negative affects on acting out behaviour, frustrations tolerance (teacher rating), and are more likely to be hitting behaviour (peer-rating) and meanness (peer-rating). Some of the negative effects was found to be mediated via instable childcare arrangements.	More negative effects for boys’ than for girls’ and for working class children’s than for middle class children’s hitting behaviour.

III. OVERVIEW OF SOME WIDELY USED RESEARCH TOOLS

1. NATIONAL LONGITUDINAL SURVEY OF THE YOUTH 1979 (NLSY79)¹¹

The NLSY79 is a nationally representative US sample of 12,686 young men and women who were 14-22 years old when they were first surveyed in 1979. These individuals were interviewed annually through 1994 and are currently interviewed on a biennial basis. Since their first interview, many of the respondents have made transitions from school to work, and from their parents' homes to being parents and homeowners. These data provide researchers an opportunity to study a large sample that represents American men and women born in the 1950s and 1960s, and living in the United States in 1979.

Information includes the start and stop dates for each job held since the last interview, periods in which individuals are not working but still with an employer (called within-job gaps), and labor market activities (looking for work, out of the labor force) during gaps between jobs. ... Additional information collected in the event-history format includes marital status, fertility, and participation in government assistance programs such as unemployment insurance and Aid to Families with Dependent Children (AFDC).

Although a primary focus of the NLSY79 survey is labor force behavior, the content of the survey is considerably broader. The survey contains an expansive set of questions ranging from child-care costs to welfare receipt. For example, the survey includes detailed questions on educational attainment, training investments, income and assets, health conditions, workplace injuries, insurance coverage, alcohol and substance abuse, sexual activity, and marital and fertility histories. Additional labor force information includes hours worked, earnings, occupation, industry, benefits, and other specific job characteristics.

Moreover, the NLSY79 includes an aptitude measure, a school survey, and high school transcript information. An aptitude indicator, the full Armed Services Vocational Aptitude Battery (ASVAB) was administered to 94 percent of the sample respondents in 1980. The ASVAB consists of 10 tests measuring knowledge and skill in areas such as mathematics and language. In 1980, a survey of the secondary schools attended by NLSY79 respondents was conducted. Information gathered in the survey included school-level characteristics as well as respondent-specific information such as achievement test scores. In 1980-1983, the NLSY79 collected detailed transcript information for potential high school graduates that included coursework, grades, and attendance records.

¹¹ Source: <http://www.bls.gov/nls/y79summary.htm>

THE 1986 EXPANSION ON MOTHERS AND CHILDREN¹²

In 1986, a separate survey of all children born to NLSY79 female respondents began, greatly expanding the breadth of child-specific information collected. In addition to all the mother's information from the NLSY79, the child survey includes assessments of each child as well as additional demographic and development information collected from either the mother or child.

On a regular basis, the NLSY79 has collected a great deal of pre- and postnatal care information from the sample women as they became mothers. For example, fertility data include information on all pregnancies/live births, a cumulative inventory of all children reported, and contraceptive methods used. This vast wealth of information also includes the mother's health during pregnancy, and prenatal practices like the extent of alcohol use or smoking and the use of prenatal care. Also available are gestation length, birth weight, as well as infant feeding practices, illnesses and well-baby care for the first year of life. In 1986, a separate survey of all children born to NLSY79 female respondents began, greatly expanding the breadth of child-specific information collected. In addition to all the mother's information from the NLSY79, the child survey includes assessments of each child as well as additional demographic and development information collected from either the mother or child.

Since 1986, a battery of child cognitive, socioemotional, and physiological assessments as well as a variety of attitude, aspiration, and psychological well-being questions have been administered biennially for age appropriate children. These assessments include the Home Observation for Measurement of Environment (HOME), which is useful for predicting later cognitive, social, and physical development, a set of Temperament scales, a Behavior Problems Index, the Self-Perception Profile for Children, and the Peabody Individual Achievement Test (PIAT) for math and reading recognition. The types of assessment measures vary depending on the age of the child, with the cognitive materials for younger children consisting of tests like body part identification or location memory. Older children take more advanced assessments like the PIAT.

For children younger than 10, many of the assessments and much of the supplemental information are collected from the child's mother. This includes child demographic and family background characteristics, extensive health history (both prenatal and postnatal,) and information on the child's home environment, including maternal emotional and verbal responsiveness and involvement with her child.

¹² Source: <http://www.bls.gov/nls/y79chyasum.htm>

The availability of comprehensive child data, coupled with longitudinal information on the family background, education, employment histories, and economic well-being of their NLSY79 mother provide researchers with a unique opportunity to examine the linkages between maternal- family behaviors and attitudes and subsequent child development. Because information is collected for all children born to female respondents, the NLSY79 Child data also offer opportunities for comparing developmental and other outcome measures between siblings and cousins. The relatively large sample of siblings and cousins permits researchers to explore within- and cross-family effects to a greater extent than is typically possible.

2. MEASURES OF BEHAVIOURIAL OUTCOMES¹³

Behavior Problems Index. Completed by the child's mother for children 4 years of age and older. The public file includes an overall behavior problems score, as well as an externality and internality scale. Additionally, subscales rate the child on the following six types of problem behaviors: Antisocial, anxious or depressed, hyperactive, headstrong, dependent, and peer conflicts.

The scale is based on responses by the primary caregiver as to whether a set of 30 problem behaviors is often, sometimes, or never true of the child. Behaviors include having sudden changes in mood or feeling, is fearful or anxious, bullies or is cruel or mean, demands a lot of attention. Behaviors are also divided into two subscales, a measure of externalizing or aggressive behavior and a measure of internalizing, withdrawn or sad behavior. The full scale consists of the following items:

Question

- a (He/She)has sudden changes in mood or feeling.
- b (He/She)feels or complains that no one loves him/her.
- c (He/She)is rather high strung and nervous.
- d (He/She)cheats or tells lies.
- e (He/She)is too fearful or anxious.
- f (He/She)argues too much
- g (He/She)has difficulty concentrating, cannot pay attention for long.
- h (He/She)is easily confused, seems to be in a fog.
- i (He/She)bullies or is cruel or mean to others.

¹³ Source: <http://www.bls.gov/nls/handbook/2005/nlshc4.pdf> and <http://psidonline.isr.umich.edu/CDS/usergd6.html>

j (He/She)is disobedient.

k (He/She)does not seem to feel sorry after (he/she)misbehaves.

l (He/She)has trouble getting along with other children

m (He/She)is impulsive,or acts without thinking.

n (He/She)feels worthless or inferior.

o (He/She)is not liked by other children.

p (He/She)has difficulty getting (his/her) mind off certain thoughts.

q (He/She)is restless or overly active, cannot sit still

r (He/She)is stubborn,sullen,or irritable.

s (He/She)has a very strong temper and loses it easily.

t (He/She)is unhappy,sad or depressed.

u (He/She)is withdrawn, does not get involved with others.

v (He/She)breaks things on purpose or deliberately destroys (his/her)own or another's things.

w (He/She)clings to adults.

x (He/She)cries too much.

y (He/She)demands a lot of attention.

z (He/She)is too dependant on others.

aa (He/She)feels others are out to get (him/her).

bb (He/She)hangs around with kids who get into trouble.

cc (He/She)is secretive, keeps things to (himself/herself).

dd (He/She)worries too much.

3. THE HOME OBSERVATION FOR MEASUREMENT OF THE ENVIROMENT (HOME) INVENTORY¹⁴

The Home Observation for Measurement of the Environment (HOME) Inventory, administered in four versions for children of all ages, measures the nature and quality of the child's home environment. These data, collected from both mother reports and interviewer observations during the biennial assessment interviews, provide information on the overall quality of the home environment, emotional and verbal responsiveness of the mother, maternal acceptance of and involvement with the child, organization of the environment, presence of materials for learning, and variety of stimulation. For the older age groups, the

¹⁴ Source: <http://www.bls.gov/nls/handbook/2005/nlshc4.pdf> and <http://www.friendsnrc.org/download/outcomeresources/toolkit/annot/home.pdf>

HOME Inventory also includes a measure of parental modeling of maturity. All of the items in the NLSY79 Child HOME Inventory are not necessarily included in the HOME score.

The HOME Inventory attempts direct, relatively standardized measurement of environmental and interaction factors believed to be associated with adequate child welfare services. The Home Observation for Measurement of the Environment (HOME) Inventory (Bradley and Caldwell 1984) is designed to measure the quality and quantity of stimulation and support available to a child in the home environment. The focus is on the child in the environment and the child as a recipient of inputs from objects, events, and transactions occurring in connection with the family surroundings.

The initial version of the Inventory is called the Infant/Toddler (IT) HOME. It is designed for use during infancy (birth to age 3). It is composed of 45 items clustered into 6 subscales: 1) Parental Responsivity, 2) Acceptance of Child, 3) Organization of the Environment, 4) Learning Materials, 5) Parental Involvement, and 6) Variety in Experience. (...)

The Early Childhood (EC) HOME is designed for use between 3 and 6 years of age. It contains 55 items clustered into 8 subscales: 1) Learning Materials, 2) Language Stimulation, 3) Physical Environment, 4) Parental Responsivity, 5) Learning Stimulation, 6) Modeling of Social Maturity, 7) Variety in Experience, and 8) Acceptance of Child. (...)

There are six subscales of the Birth to Three version (45 items total). Examples are below:

1. Emotional and Verbal Responsivity of Mother (11 items): *Mother spontaneously vocalizes to child atleast twice during visit (exclude scolding).*
2. Avoidance of Restriction and Punishment (8 items): *Mother does not shout at child during visit.*
3. Organization of Physical and Temporal Environment (6 items): *When Mother is away, care is provided by one of three regular substitutes.*

There are eight subscales of the Preschool version (55 items total). Examples are below:

1. Stimulation Through Toys, Games, and Reading Materials (11 items): *Toys of games facilitating learning numbers (blocks with numbers, books about numbers, games with numbers, etc*
2. Language Stimulation (7 items): *Parent teaches child some simple manners—to say “Please,” “Thank you,” “I’m sorry.”*
3. Physical Environment Safe, Clean, and Conducive to Development (7 items): *There is at least 100 square fee of living space per person in the home.*

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