New South Wales Government

What determines quality in child care?

DoCS
NSW Department of Community Services

Introduction

This Research to Practice Note provides an overview of the key issues presented in the literature review 'Determinants of quality in child care: A review of the research evidence'.[1] The aim of this Note is to outline what the research literature tells us about the factors that determine quality in child care for children of preschool age and the impact of quality of care on developmental outcomes.

Background

The increase in research on the effects of child care has been driven by two forces.

Firstly, social change has seen an increase in the participation of women in the workforce which has resulted in an increase in the non-maternal care of children, through both formal and informal arrangements. As the number of mothers of very young children entering the workforce has grown, so has the concern about the effects of non-maternal care on children.

Secondly, neuro-psychologists have established that as well as genetic predisposition, there are also clear links between early experiences and brain development in early childhood. Depending on the nature of these experiences, children will be provided with 'fragile or sturdy' foundations for future development.[2]

Early research into the effects of child care compared maternal care at home with centre-based care. However, it was soon recognised that the quality of child care varied widely, both at home and in centres and that this was likely to be an important factor in determining the effects of child care.

'Child care' in this context refers to an arrangement for the care of children below school age that does not include parental care. Child care includes:

- Long day care in centres
- Home-based care, usually paid, in the child's own home or caregiver's home
- Care by friends or relatives (also known as 'kith and kin' care)

Research on quality of care has predominantly adopted a developmental perspective that is, it focuses on child outcomes. Using this perspective, high quality care is defined as that which promotes optimal child development and low quality care is associated with negative outcomes for children.

Measuring child care quality

Structural and process quality

Child care quality can be divided into structural quality and process quality. Indicators of structural quality include characteristics of care that can be easily regulated and measured, such as staff to child ratios, caregiver qualifications and size of child groupings.

Process quality is more difficult to regulate and refers to what actually occurs in child care settings. It is measured by observing the children's interactions with caregivers and other children, and their engagement with the activities and materials provided.

Instruments used to measure quality

There are several instruments that have been developed to measure child care quality, both structural and process quality. One of the most widely used instruments is the Early Childhood Environment Rating Scale which also has a version for infant care settings and for home (or family day care) settings.[3] This family of scales focuses mainly on structural variables such as the quality of the physical setting, curriculum, health, safety, time scheduling, set up of play spaces, teacher qualifications, centre administration, and meeting staff needs while including some process variables such as caregiver-child interactions and appropriateness of play materials.

Other scales have concentrated more on process variables such as the caregiver-child interaction particularly on the nature and sensitivity of caregiver responses which are central indicators of quality.[4]

Research on structural quality

Much of the research on child care quality has examined structural quality, since regulable aspects of child care are more easily quantified.

Research has examined the links between indicators of structural quality, overall quality and child outcomes. The major indicators of structural quality that have been linked with overall quality of care include staff to child ratios; group size; caregiver education or qualifications; and stability, staff turnover and staff wages.

Staff to child ratios

There are a number of ways to calculate the ratio of children to adults in a child care setting. The one most commonly used in research is the total number of staff and children observed in the same area over a given period of time.

Research has found smaller ratios, that is, fewer children per caregiver, to be associated with higher global quality scores, higher process quality scores and better child outcomes. Conversely higher ratios (that is, many children per caregiver) have been linked to lower process quality.

Research has mainly examined the effects of staff to child ratios in children aged three to five years but there is evidence that smaller ratios are a stronger predictor of quality for infants and toddlers than for older children.

Separate studies comparing different ratios suggest that as the ratio increases above 3:1 for babies and 6:1 for toddlers, process quality declines. With smaller child to caregiver ratios, caregivers were significantly more supportive and respective of children's autonomy and children were more cooperative.[5] This positive difference was more apparent for younger than older children. Children receive less attention, affection, responsiveness and stimulation from caregivers each time a single child is added to the group which increases the child to staff ratio.[6]

Group size

Regulations generally determine the maximum number of children supervised as a group. Group size varies according to age with smaller groups for younger children.*

Research has found that where the number of children in a group was of the recommended size or below, process quality was higher.

In general, group size appears to be a less important indicator of quality than other structural variables.

Caregiver education, qualifications and training

Among staff working in child care settings, there is wide variation in the type and level of education, qualifications and training.

Early childhood educators with a university qualification that included a child development specialisation were found to hold less authoritarian child-rearing beliefs, and worked in settings that were safer, cleaner and more stimulating.[7] There is a strong link between specialised qualifications, process quality and child outcomes. Caregiver's level of education is a better predictor of process quality than staff to child ratios or group size.[8]

Stability, staff turnover and staff wages

There are a number of key research findings in relation to stability in care, staff turnover and staff wages:

- Stability in care is strongly related to positive child outcomes.[9]
- Higher staff turnover is associated with lower quality child care and poorer child outcomes.
- Children enrolled in fewer care arrangements show better adjustment.[10]
- Staff turnover in child care is generally high and may be related to low wages and poor working conditions. Both low wages and poor working conditions are in turn related to low process quality.[11]

Standard child care and child outcomes

The quality of care routinely provided varies between centres. The most recent studies of the effect of routinely provided child care have been carried out in the United States. There, unlike Australia, the child care quality is not subject to accreditation and it is likely that the quality of child care is lower.[12]

Research has examined the link between structural and/or process aspects of child care quality and child development, particularly socio-emotional, language and cognitive development.

The following key findings have been identified in research:

- Children who receive high quality care have improved cooperation and compliance and reduced behaviour problems.

* In the US these range from a recommended group size of six for babies under 24 months to 16 for four to five year olds.

- There is a strong link between quality of care and children's language, cognitive development and maths readiness.
- Caregiver level of education (a structural variable) and language stimulation by carer (a process variable) are linked to better child cognitive and language development.
- Low quality care added to the risks inherent in poor mothering.
- Children with social emotional difficulties benefited from high quality care but their difficulties were exacerbated if they were placed in low quality care.

The relationship between aspects of structural quality, process quality and child outcomes is not straightforward. The impact of structural quality on child outcomes may be mediated by process quality. For example, higher scores on structural variables are associated with high levels of process quality which are, in turn, associated with children's greater cognitive and social competence.[13]

Longitudinal research has shown that higher quality care continued to be linked to higher scores in maths, reading and memory at age nine.[14] Where the standard of routinely experienced child care was high quality, there were no detrimental effects when children were followed as teenagers.[15]

Quality and the child care setting

Centre-based vs home based care

There is relatively little evidence comparing the quality of centre-based and home-based child care (eg, family day care, relative care), however it is clear that the standard of care varies across different home and centre-based settings.

Among disadvantaged populations there have been some negative aspects of 'kith and kin' care compared to centre-based care. However, in non-disadvantaged samples, there is evidence that the quality of care may be higher in home-based care than centre-based care for infants and toddlers. By age three there was found to be little difference between the quality of care provided in centre and homes.[16]

For all children in formal care arrangements, centre-based child care mixed with grandparent care was associated with better developmental outcomes than other combinations of arrangements.

Early childhood education as an intervention to counteract disadvantage

The term 'early childhood care and education' (ECCE) has been used to describe research into child care, pre-kindergarten programs and other early childhood interventions such as Head Start.

When ECCE programs are introduced as an intervention, it is particularly important that the quality of the care is high. The evidence indicates that this is especially the case for children who are at risk of poor outcomes due to unfavourable family environments. The greatest gains in terms of pre-reading levels, cognitive development and problem behaviours are made by the disadvantaged group of children in high quality care.[17] However they are also more likely to be detrimentally affected when the quality of care is low.

The long-term positive effects of high quality preschool for children from disadvantaged families have also been well documented in benchmark studies which investigate programs such as the High/Scope Perry Preschool and the Chicago Child-Parent Centres. Staff-child ratios for four year olds in these programs are low, with one highly qualified staff member to every five or six children being cared for in groups of 20-25. These half-day programs run five days a week and generally include a parent education component. The High/Scope Perry study found that adults at age 40 who had attended the preschool program as children had higher earnings, were more likely be employed, had committed fewer crimes, and were more likely to have graduated from high school than adults who had not attended the program.[18] Similar positive results have been found for the Chicago Child-Parent Centres.

The research showing positive effects of quality early childhood education for children from disadvantaged families has resulted in interest in using it as an early intervention strategy by governments in the United States and the United Kingdom. As a result, research on the effectiveness of ECCE programs is now flourishing.

Improvements in research design

The research in the area of quality child care has looked at broad developmental outcomes and the factors associated with these outcomes using small randomised controlled trials, large samples with matched control groups, and some longitudinal studies. The focus of research is becoming increasingly fine-grained, and includes:

- trialling new measures of quality of the child care environment
- examining children's cortisol levels. It has been found that increased levels of cortisol, indicative of increased stress, are more likely and larger as the quality of care decreases
- examining intra-group differences that may be obscured by global measures of quality.

A complication for researchers is that children from more advantaged families are more likely to experience higher quality home and centre based care, while children from disadvantaged families are more likely to attend poor quality care. This makes it difficult to disentangle the effects of background from the effects of quality of care.

This difficulty may be overcome by several large-scale longitudinal studies which are currently being implemented. These studies, in the United Kingdom, the United States and, more recently Australia, follow the progress of cohorts of between one and three thousand children for several years. Information is obtained about important features of the day care experience (such as length of time in care, caregiver turn-over, or other care experiences) rather than the 'one-time snapshot' picture provided by cross-sectional studies. They will provide invaluable information on the longer-term effects of routinely experienced child care.

Outcomes are not only being measured in terms of developmental domains (such as socio-emotional, cognitive, language, physical and motor development) but there is also an increasing focus on 'readiness for school'. This includes examining pre-literacy and pre-numeracy skills as a function of the quality of child care.

Conclusion

The goal of high quality early childhood education and care is to enhance the development of the whole child, to enrich their experiences and avoid the pitfalls associated with 'institutionalising' children as a result of low quality care.

Research into child care quality has found lower child to staff ratios, smaller group size and better caregiver education, qualifications and training to be associated with higher process quality and overall quality. High quality care is associated with better child outcomes, including better language and cognitive development and fewer behavioural problems. The link between high quality care and positive child outcomes appears to be especially strong for children from disadvantaged families. As more children experience child care, research into the effects of early childhood care and education is flourishing, especially with government funded programs in the US and UK such as pre-kindergarten programs.

Further Reading

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Endnotes

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The DoCS Research to Practice program aims to promote and inform evidence-based policy and practice in community services.

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