



Small is Beautiful:

Staff-Child Ratios and Group Size in Early Care and Education

Parents' demand for early care and education services has surged over the last 30 years, as higher percentages of parents of young children have entered the workforce and as families have sought experiences that promote early learning and development. This policy brief, the fourth in a series exploring the components of a high-quality early care and education (ECE) program, focuses on particular features of ECE programs: staff-child ratios and group size. Common sense and research both suggest that children in smaller groups and with better staff-child ratios get more individual attention and better supervision. The brief explores research on the importance of appropriate ratios and group size, reviews requirements in Wisconsin ECE settings, and offers implications for Wisconsin public policy.

Research on Staff-Child Ratios and Group Size

Nearly all studies of staff-child ratios and group size in early care and education have concluded that these factors are key indicators of quality, leading to better experiences and outcomes for children. This section highlights a few key studies and reports.

National Day Care Study

The National Day Care Study, the most extensive early study of child care in the United States when it was released in 1979, found that group size and adult-child ratios were two of the most important influences on quality.¹ The study found that when children were in larger groups they received less interaction from adults; exhibited more crying, apathy, and aimless wandering; and engaged in less conversation, less interaction and less focused play. In larger groups, adults were often more engaged in dealing with behavior problems, and there was less cognitive and language stimulation. In smaller groups, children were more cooperative, more verbal, and more responsive to adults and peers.

National Research Council

The National Research Council's 2001 report, *Eager to Learn: Educating Our Preschoolers*, concluded that both group size and adult-child ratios are correlated with greater program effects.² After three years of review that examined over 20 rigorous research studies, the Council's panel of experts found that low ratios of children to adults are associated with more extensive teacher-child interaction, more individual attention, and less restrictive and controlling teacher behavior. The panel also found that small group size correlated with children being more active in their learning, more opportunities for teachers to help children develop language proficiency, and more development of children's exploration and problem-solving.

“Small classes and better ratios enable teachers to provide more individual attention and nurturing interactions. They are associated with higher scores on global measures of quality and, more specifically, more extensive teacher-child interaction, more individualization, less restrictive and controlling teacher behavior, and children engaging in more social interaction, more extensive and complex language, and more complex play.”
—National Research Council, *Eager to Learn: Educating Our Preschoolers*, 2001.

NICHD Study on Infant/Toddler Care

The National Institute of Child Health and Human Development (NICHD) conducted one of the nation's most extensive studies of early child care, following more than 1,000 children through their first four-and-a-half years of life. Researchers measured the impact on children of what they called “regulable features”—that is, features that can easily be regulated, such as adult-to-child ratio, group size, and the training and education of the child care provider. The study found that children in classrooms that met more



of the recommended standards were more ready for school, had better language comprehension, and had fewer behavior problems by age 3.³

NIEER Report on Class Size for 3- and 4-Year-olds

A report from the National Institute for Early Education Research found that class size reduction can improve educational outcomes. Economist Steve Barnett reviewed a series of studies that point to the benefits of smaller classes, and concluded that in sum preschool research strongly indicates that smaller class sizes are associated with greater educational effectiveness and other benefits.⁴ In fact, he concluded that only those programs with small class sizes and high teacher-to-child ratios have been found to produce very large educational benefits.

In short, the consensus of research in early care and education agrees that both reasonable group size and child care ratios are linked to higher quality programs and more desirable impacts on children.

Summary of Research Findings on Group Size and Staff-Child Ratios

- Infants, toddlers and preschoolers in smaller groups and with fewer children per adult were more cooperative, more verbal and more responsive to adults and peers.
- Low ratios of children to adults are associated with more extensive teacher-child interaction, more individual attention and less restrictive and controlling teacher behavior, especially benefiting children from low-income families
- Small group size is correlated with more child initiations, more opportunities for teachers to help children develop language proficiency, and more development of children’s exploration and problem-solving.
- Children in classrooms with lower group sizes and fewer children per adult were more ready for school, had better language comprehension and had fewer behavior problems.

While most researchers would agree that appropriate group size and ratios do not by themselves produce nurturing and educational programs, those two quality indicators appear to contribute to higher quality programs and better child outcomes.

Standards for Ratios and Group Size in ECE

National Association for the Education of Young Children (NAEYC)

The National Association for the Education of Young Chil-

dren sets standards for both group size limits and teacher-to-child ratios for programs to be nationally accredited as meeting high quality standards.

Below is a table showing the NAEYC standards regarding teacher-to-child ratios for each group size by age group.⁵

It should be noted that these are high quality standards that are difficult for most early childhood programs to meet, given the resources available to them.

Age group	Group size									
	6	8	10	12	14	16	18	20	22	24
Infants (birth-15 months)	1:3	1:4								
Toddler/Twos (12-36 months)										
12-28 months	1:3	1:4	1:4	1:4						
21-36 months		1:4	1:5	1:6						
Preschool										
2.5 year-3 year olds (30 - 48 months)				1:6	1:7	1:8	1:9			
4-year-olds						1:8	1:9	1:10		
5-year-olds						1:8	1:9	1:10		
Kindergarten								1:10	1:11	1:12

National Institute for Early Education Research (NIEER)

NIEER sets quality standard benchmarks for preschool programs for 3- and 4-year-olds. The standard for group size is no more than 20, with a teacher-to-child ratio of 1:10.⁶

Head Start

Head Start has the most rigorous group size and ratio requirements among major ECE programs, as shown in the table below. Head Start serves primarily children in poverty.

Head Start Standards

Age of child	Group size maximum	Staff-child ratio
4-5 years	20	1:10
3-4 years	17	2:17

Wisconsin Child Care Regulations

Wisconsin child care licensing regulations on staff-child ratios and group size in child care centers are more stringent than most states for children age 3 and under, and in the average range for 4-year-olds.⁷

The table below shows licensing standards for group child care centers.



Wisconsin Licensing Standards for Child Care Centers

Age of child	Group size maximum	Staff-child ratio
4-5 years	24	1:13
3-4 years	20	1:10
2 ½ -3 years	16	1:8
2-2 ½ years	12	1:6
Birth-2	8	1:4

Wisconsin allows a maximum of eight children in care by a licensed family child care provider, and a more stringent ratio if there are two or more children under age 2. Again, Wisconsin’s policies are about average, with 17 states with requiring smaller groups for a family child care provider (typically six children), and at least 13 states with less stringent group size and ratio requirements.⁸

Four-Year-Old Kindergarten

Wisconsin does not set state standards for group size and teacher-to-child ratios in 4-year-old kindergarten (4K), primarily because of a long-standing tradition of local control for school districts. The Department of Public Instruction’s Policy and Information Advisory on 4K indicates that class size and teacher ratios policies are local policies determined by the school board.⁹

The Advisory provides information on other group size and ratio standards that school districts may consider:

- 1:10 with a maximum class size of 20 as per the quality benchmarks outlined by the National Institute on Early Education Research (NIEER);
- 1:13 with a maximum group size of 24 as required in state child care licensing regulations;
- 1:15 ratio required by the Student Achievement Guarantee in Education (SAGE) class size reduction program and early childhood special education inclusion models; or

“Across all nonmaternal settings...the comprehensive National Institute of Child Health and Human Development (NICHD) Study of Early Child Care found lower child-adult ratios and groups sizes to be the strongest predictors of positive (i.e., sensitive, warm, responsive, and cognitively stimulating.... The NICHD study also found positive toddler caregiving more likely when child-adult ratios and group sizes were smaller....”

—Child Care & Early Education Research Connections, *Infant and Toddler Child Care Quality*, 2005.¹⁰

- 2 teachers working with groups of 16 to 20 as advised by the National Association for the Education of Young Children (NAEYC).

A study sponsored by the Wisconsin Council on Children and Families (WCCF) of 65 school districts that provided 4K found that the average class size was 16.¹¹ However, it was not clear from the data available whether the classrooms had one or two adults—a sole teacher, or a teacher and a teacher assistant. Another report indicated that Milwaukee Public Schools’ teacher-student ratio policy for 4K is 1:25, but again, the extent to which classrooms have both a teacher and a teacher assistant is unclear.¹²

Balancing Cost and Quality

Policies establishing high standards for group sizes and staff-child ratios can be expensive to implement, primarily because the per-child cost of a program increases when there are fewer children for each teacher or provider. While Wisconsin standards may not meet the high levels recommended by NAEYC and NIEER, they appear to be in a reasonable range.

Efforts to provide high quality early care and education are often plagued by the cost of implementing the two quality features that have the greatest impact on overall program cost: group size/ratios and staff qualifications. Debate in the field continues about the most cost-effective investment. For instance, are ratios and group size more important than staff qualifications and program curriculum?

According to economist Steve Barnett, the available evidence is “not so precise as to permit definitive statements about the optimal class size, given the tradeoffs between costs and benefits.”¹³ We do know, however, that the most prominent ECE programs that have shown strong evidence of long-term positive results maintained small class sizes and high teacher-child ratios.¹⁴

Public Policy Implications for Wisconsin

The research on group size and ratios for child care and early education programs highlight the strong correlation between those features and positive outcomes, but the evidence does not lead to clear public policy prescriptions. The following approaches may be worth consideration by Wisconsin’s policy-makers:

1. It may be prudent to address group size and staff-child ratios in combination with other quality features. Because we do not have sufficient knowledge about how key



quality features interact, we may want to address group sizes and ratios along with other quality features, like staff qualifications and the early learning environment.

2. Efforts to significantly improve group size and staff-child ratios via regulation or requirements should be linked to fiscal resources. Because of the cost of implementing higher standards for ratios and group size, simply mandating a stronger requirement is probably not prudent in either the private or public sector.

3. Because the research is particularly strong regarding positive impacts on children from low-income families, Wisconsin may want to target efforts to improve group size and ratios in programs with higher concentrations of low-income children. The state could make special efforts to help ECE programs that serve low-income families to meet higher standards for group size and ratios, staff qualifications, and curriculum. In particular, such an approach could apply to children from low-income families served through the Wisconsin Shares child care subsidy program.

More than a quarter century of scientific findings clearly point to the quality features—including standards for group size and ratios—which are the most effective in producing positive results for children. If Wisconsin's public policy decisions are guided by a science-based framework, state and local government will seize the opportunity to transform the learning and development experiences of our youngest citizens, with the promise of improving their lives today and enhancing the future of our state.

End Notes

¹ Ruopp, R., Travers, J., Glantz, F., & Coelen, C. (1979). *Children at the Center: Final Report of the National Day Care Study*. Cambridge, MA: Abt Associates.

² National Research Council (2001). *Eager to Learn: Educating Our Preschoolers*. Committee on Early Childhood Pedagogy. Barbara T. Bowman, M. Suzanne Donovan, and M. Susan Burns, editors. Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.

³ NICHD Early Child Care Research Network. (2006) *The NICHD Study of Early Child Care and Youth Development: Findings for Children up to Age 4 ½ years*. Website: http://www.nichd.nih.gov/publications/pubs_details.cfm?from=&pubs_id=5047

<http://www.childcareresearch.org/SendPdf?resourceId=6872>

⁴ Barnett, W.S., Schulman, K., and Shore, R. *Class Size: What's the Best Fit?* (2004) National Institute for Early Education Research. Website: <http://nieer.org/resources/policybriefs/9.pdf>

⁵ National Association for the Education of Young Children. (2005) *NAEYC Early Childhood Program Standards and Accreditation Criteria*. Website: <http://naeyc.org/academy/standards/>

⁶ Barnett, W.S., Hustedt, J.T., Friedman, Ed. M., Boyd, J.S., & Ainsworth, P. (2007) *The State of Preschool 2007: State Preschool Yearbook*. Website: <http://nieer.org/yearbook/>

⁷ National Child Care Information Center website: <http://nccic.org/pubs/cclicensingreq/ratios.html>

⁸ National Child Care Information website.

⁹ Department of Public Instruction, "Policy and Information Advisory 08.01, Subject: Four-Year-Old Kindergarten," February 2008. Website: <http://dpi.wi.gov/fscp/pdf/4kbul08.pdf>

¹⁰ Kreader, J.L., Ferguson, D., Lawrence, S. National Center for Children in Poverty. (2005) *Infant and Toddler Child Care Quality*.

¹¹ Wisconsin Council on Children and Families, (2006) *Early Education Matters: Lessons Learned*. Website:

<http://www.wccf.org/pdf/eemlessonslearned.pdf> Note: of the 65 districts studies, 32 were randomly selected, and 33 operated community-approach 4K.

¹² Wisconsin Council on Children and Families. (2005) *Smart Start Milwaukee: Giving Milwaukee's Children Their Best Start*. Website: <http://www.wccf.org/pdf/startsmart2005.pdf>

¹³ Barnett et al (2004)

¹⁴ Galinsky, E. (2006) *The Economic Benefits of High-Quality Early Childhood Programs: What Makes the Difference*. Washington, DC: Committee for Economic Development.

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