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The Great 35 Square Foot Myth

by **Randy White & Vicki Stoecklin**

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One of the great myths of early childhood education is the standard of 35 square foot of classroom space per child for the design of child care classrooms. No one is totally sure how the 35 square foot standard originally evolved. There is some speculation that it has its origins in health department studies that elementary school children need a minimum of 35 square feet per student to prevent the spread of communicable diseases in the classroom.

Whatever the origins, the myth is perpetuated by state child care licensing standards, which almost universally, have adopted 35 square feet as their minimum standard. Unfortunately, most child care center developers and designers accept the 35 SF as an adequate and quality standard. The problem is that unlike other government codes and regulations, such as building codes where structural standards assure that roofs will be structurally sound and water systems will be safe, the classroom size standard has no foundation or relevance to the actual amount of space required to provide quality care for children. In effect, state child care licensing laws and regulations are legislating inadequate classroom design standards to the detriment of the children who occupy those classrooms. It is also unfortunate that many child care accreditation programs continue to not only perpetuate, but also reinforce the myth in their accreditation standards by certifying child care centers with only 35 SF of space per child as quality.

There is a large body of research that shows that the amount of classroom space per child is the single most important environmental factor affecting the quality of child care programs and the welfare of children and staff. The well-being, constructive behavior and social integration of preschool children in group settings are highly dependent on the size of the classroom. The research has consistently confirmed that 35 SF of classroom space per child (measured wall-to-wall) is inadequate and that about 50 SF is required. The research dates back over 25 years. Some of the earliest research was done in the late 1970's for the U.S. Corps of Engineers Army to develop quality standards for Army child development centers. That study recommended a standard of 42 SF of activity area as adequate per child and 50 SF as optimum (Moore 1994).

A new research study from France has added to the evidence. Alain Legendre, a researcher for the French

National Center for Scientific Research, monitored the cortisol levels of 113 children between 18 months and 40 months of age in eight child care centers in both France and Hungary over an eight month period (Legendre 2003). An increased cortisol level is considered a good biological marker of stress, and in particular stress related to psychological distress. The literature on the physiology of stress during childhood shows the importance the regulation of the hypothalamic-pituitary-adrenocortical system, which produces cortisol, as it can affect other areas of development, including physical growth, behavioral outcomes, memory and cognitive process, and immune functioning.

The research found that 54 square feet (5 m²) of accessible play space per child is required to minimize children's stress levels. Previous research by Legendre showed that access to adequate space reduces the occurrence of competition and conflicts and promotes the development of positive interactions between children (Legendre 1995).

Legendre's research is significant, as it is the first research to measure the impact of the classroom environment based upon children's reactions (through their stress levels), rather than based upon adult observation of children's behaviors.

Legendre's findings are consistent with a 1998 study done in the Netherlands to develop quality child care standards there. That study researched children in twelve different child care centers and found that a minimum of 48 SF per child is required (van Liempd 1998).

Legendre, in his research report, pointed out that adequate space is especially important for children who are developing their social skills in a peer group. Two to three year-olds often experience difficulty in shared play and in explicitly conveying the intent of their actions to peers, perhaps because their verbal communication skills are still rudimentary. Frequent misunderstandings and difficulties often disrupt interactions or lead to conflicts. Therefore, early peer groups are at the same time stimulating, but also demanding, and can involve frequent emotional arousal, either positively or negatively. Moreover, these children are often confronted with situations that challenge the limits of their sociocognitive skills that trigger stress. More space allows shy children or those who have difficulties adjusting to the group, to keep peers at a distance. They can use parts of the classroom where they are less socially exposed.

Many organizations have adopted quality classroom size standards. The GSA, that oversees the construction of all Federal buildings, including their child care centers, requires a minimum of 45 SF of usable activity area per child for toddlers and preschoolers exclusive of cubbies, restrooms and built-in cabinetry (GSA 1998). The US Department of Defense uses the 45 SF standard in their Unified Facilities Criteria for the Design of Child Development Centers (Department of Defense 2002). The Head Start Technical Assistance Center recommends 50 SF (National Head Start 2003). The Easter Seals Child Development Center Network, that has the most experience including children with walkers and wheelchairs in child care settings and operates 50 centers nationwide, uses a 50 SF per child standard (Easter Seals 2003).

For years, the National Health and Safety Performance Standards, jointly published by the US Department of Health and Human Services, American Academy of Pediatrics and the American Public Health Association, has contained a standard of 50 SF per child, measured on the inside, wall-to-wall (American Academy of Pediatrics 2002).

Anita Rui Olds, until her death in 1999, was considered one of North American's leading experts on child care center design. In her criticism of the inadequacy of the 35 SF standard, she said, "Young children relate to the world through their bodies and their senses. They require large amounts of space in which to learn by moving

and doing. Thirty-five SF per child is a 5'-x-7' space—a little over twice the dimensions of the average playpen." Olds, based upon her research, recommended 50 SF per child (Olds 2001).

The following comparisons are offered to put 35 SF per child in perspective:

- Minimum standards for prisons require more than 35 square feet per prisoner.
- The average child's room at home is about 120 square feet. Allowing 40 SF for furniture leaves a remaining floor space of 80 SF for play.
- The typical amount of office space allocated for moderate size offices and circulation is 100 SF per person.

Twenty-five years is a long time to wait for a myth to die. To put children first, child care professionals and accreditation programs need to start insisting that child care centers be designed to quality standards and not let archaic licensing laws and size standards continue to work to the detriment of children.

References

1. American Academy of Pediatrics (2002). *Caring for our Children. National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs, Second Edition*, American Academy of Pediatrics, Elk Grove Village, IL.
2. Department of Defense (2002). *Unified Facilities Criteria (UFC). Design: Child Development Centers*, Department of Defense, Washington, D.C.
3. Easter Seals Child Development Center Network (2003). National Director. Chicago, IL.
4. GSA (1998). *Child Care Center Design Guide*, U.S. General Services Administration, Washington, D.C.
4. Legendre, Alain (2003). Environmental Features Influencing Toddlers Bioemotional Reactions in Day Care Centers, *Environment and Behavior*, Vol. 35, July 2003, 523-549.
5. Legendre, Alain (1995). The Effects of Environmentally Modulated Visual Accessibility to Care Givers on Early Peer Interactions, *International Journal of Behavioral Development*, 18, 297-313.
6. Moore, G. et. al. (1994). *Recommendations for Child Care Centers*, University of Wisconsin-Milwaukee, Milwaukee, WI.
7. National Head Start Facilities Information Services (2002). Region IV Head Start Quality Improvement Center, Director, Bowling Green, KY.
8. Olds, Anita (2001). *Child Care Design Guide*, McGraw Hill, New York, NY.
9. van Liempd, Ine (1998). Unpublished findings from research conducted by AKTA Bureau of Research and Advise on the Use of Space in the Netherlands.

Mailing Address: White Hutchinson Leisure & Learning Group, 4036 Baltimore Avenue, Kansas City, Missouri 64111, USA

Telephone: +1.816.931-1040, **Fax:** +1.816.756-5058

E-mail: Please direct all messages for Leisure, Entertainment and Recreation Projects to Randy@whitehutchinson.com; and all messages for Children's Learning and Play Projects to Vicki@whitehutchinson.com.

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