THE DISSOLUTION OF CHILDREN'S OUTDOOR PLAY: CAUSES AND CONSEQUENCES*

Most people who care about child development know nothing about design, and most people who design know nothing about child development. Shell, 1994, p. 80.

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The first playgrounds in America, introduced in 1821, were "outdoor gymnasia" influenced by the German fitness culture, and were essentially indoor gymnastic apparatus transported to the out-of-doors (Frost, 1989; Frost and Wortham, 1988; Koch, 1908; Mero, 1908). These playgrounds were reserved primarily for older boys. In 1886, Dr. Marie Zakerzewska observed children playing in sand piles provided for children in Berlin and initiated the American "sandgarten" movement for younger children by placing piles of sand in the yards of the Boston Children's Mission (Playground and Recreation Association of America, 1915; Sapora & Mitchell, 1948). These were the first organized playgrounds for younger children and quickly became popular for children of all ages.

Playground development in America followed two theoretical paths. The first, emphasizing development and learning, was rooted in the work of Froebel (1887), Dewey (1930), kindergarten pioneers such as Patty Smith Hill and Anna Bryan and the work of the International Kindergarten Union (Parker & Temple, 1925; Blow, 1909; Hill, et al, 1923; International Kindergarten Union, 1913). This developmental emphasis on play and playgrounds for nursery school playgrounds and kindergartens was later reinforced by the work of early 20th century child research centers and figures such as Piaget (1951), Vygotsky (1978) Bruner, et al (1976), and Huizinga (1950). The developmental emphasis continues in the early 21st century. Until recently, preschools were relatively unaffected by contemporary high stakes testing and continued to focus on play as a primary vehicle for learning and development.

A second theoretical path in playground development influenced American public school and community park playgrounds to the present time. Initially inspired by the German physical fitness movement, school and park playgrounds followed this emphasis through the American Playground Movement of the early 1900's. This movement was initially centered in large cities and motivated by concerns about children playing in dangerous vacant lots and streets, criminal influences and safety of children (Addams, 1911). The recreation and physical fitness emphasis continues to influence public school and community park playgrounds today. Manufacturers saw opportunities for financial opportunities and mammoth steel structures or "manufactured appliances" - slides, see-saws, swings, jungle-gyms, merry-go-rounds and giant strides began to dominate play spaces in city parks and schools (Playground

Association of America, 1910). By 1908, a Massachusetts law required all towns of 10,000 people to establish public playgrounds (Mero, 1908; Playground Association of America, 1909). In 1917, cities operated 3,940 playgrounds and employed 8,748 directors (Cavallo, 1981).

By 1917, playground leaders recognized that American playgrounds were in miserable condition: "…a disgrace to the systems to which they belong. The school trustees apparently finish the building and forget all about the playground" (Curtis, 1917/1977, p.121). As heights were increased and surfaces under equipment were paved, injuries became common-place. In 1917, the parents of a young boy injured in a playground accident in Tacoma, Washington sued the school board. The plaintiffs were awarded damages, and, consequently, playground equipment was removed from many schools in Washington (Curtis, 1917/1977).

Following World War II, architects and artists joined manufacturers and recreation specialists in designing and installing expensive, hazardous, massive, immutable, "novelty" play structures (National Recreation Association, 1954; Frost, 1992). These were intended to enhance imaginative play and promote learning by representing significant historical and cultural events (stagecoaches, space rockets, etc.). Many playgrounds featured mammoth concrete and rock structures representing animals, fantasy figures, pyramids, geometric shapes, and other forms where children parked their coats while they slid down natural hillsides on cardboard boxes. In general these creations were free standing, fixed, lifeless, and resistant to change, movement, or action by children, and frequently more appealing to adults than to children. Adaptation by manufacturers of heavy, molded animal figures to playground swing seats resulted in deaths and fatalities from children being hit by the projectile-like appendages of the molded figures. These were later banned by the CPSC and replaced by lightweight strap seats. A major shortcoming of the play structures of the "novelty era" was failure to take into account diverse play needs and interests of children, focusing instead on historical and artistic qualities appealing primarily to adults. Such qualities are important but represent only limited elements needed to provide for the diverse play needs and interests of children.

Perhaps the most significant missed opportunity for making American playgrounds safer and developmentally appropriate was failure to promote and adopt principles and practices of adventure playgrounds. These playgrounds, inspired by the work of a Danish landscape architect, C. Th. Sorensen in 1943, eventually spread throughout Europe and, in lesser degree, to Asia. Adventure playgrounds are special playgrounds featuring trained playleaders or playworkers, building dens, huts, and houses with tools and scrap materials, caring for animals, cooking over open fires, tending gardens, playing in water, sand and dirt, and engaging in a wide variety of creative, challenging games and play activities. Indeed, a central quality in creating adventure playgrounds is recognizing that children's ideas are often better than those of adults. (Norman, 2003; Frost and Klein, 1979; Bengtsson, 1974; Allen, 1968).

The American Adventure Playground Association was formed in 1976, and by 1977, the AAPA identified 16 sites in the United States and dozens of others were scattered around the country. By 2005, the Houston Adventure Playground Association had closed its playgrounds and only three adventure playgrounds remained, all in California. Despite their junk appearance and extensive challenges, "the Royal Society for the Prevention of Accidents (U.K.) confirms that the accident record of adventure playgrounds is far better than that of other forms of provision" (Heseltine, 1998), and the incidence of lawsuits at such playgrounds is far lower than playgrounds in the United States. The European Playground Safety Standard, applicable in 19 countries, excludes adventure playgrounds since they "are fenced, secured playgrounds, run and staffed according to the pedagogical principles that encourage children's development and often use self-built equipment" (European Standard, CEN EN 1176-1, 1998, p, 5). Unfortunately, adventure playgrounds failed to gain popularity in the United States because of adults' perceptions of their unsightly appearance, unsubstantiated safety concerns, lack of understanding of the value of spontaneous, creative play and games, and lack of funding,

During the 1970's and 1980's, playground equipment manufacturers designed and distributed modular wood equipment providing linked decks and play activities as options intended to conserve space, entice children to move in rapid succession from motor activity to motor activity, and encourage a range of motor behaviors and development (Beckwith, 1985). These structures allowed for flexibility in form and function, contributing to variation in design for different age groups, challenge, and complexity. The functions of modular equipment were consistent with those of earlier equipment, providing primarily for motor development, but adding private places under decks for symbolic or make-believe play.

Late twentieth century playgrounds are subjected to criticism for the so-called "cookie-cutter " or standardized appearance, especially public school and park playgrounds where thousands are collections of massive steel and plastic, brightly colored superstructures, and swings. Despite their similar or standardized appearance, these playgrounds are equipped with motor apparatus that provides multiple motor benefits to the users, such as climbing, sliding, balancing, brachiating , swinging, and they contribute to strength, flexibility, and coordination (Frost, et al, 2004). Nearly all playgrounds for school-age children fall short on integrating garden and nature areas, constructive play materials and symbolic play props into outdoor play and learning environments.

Throughout the twentieth century, the best child care and child development centers stayed true to their philosophical roots in child development research. These centers are, overall, the most developmentally beneficial playgrounds in America. For motor or exercise play they combine downsized motor apparatus and open space for organized games similar to that found in schools and parks. However, unlike schools and parks they provide for a broad range of developmental needs – language, social, cognitive, physical, aesthetic, and therapeutic. For make-believe play and constructive play they provide sand, water, tools, construction materials and various loose parts. For

social play they provide wheeled vehicle paths, tricycles and other wheeled toys. For nature study and tool use they provide planters and small garden plots for tending plants, and facilities for small animals. Art materials are available both indoors and outdoors. Storage facilities are located conveniently on the playground to house the many loose parts. (Frost, 1992; Frost, 1992: Frost, et al, 2005; Fromberg & Bergen, 1998, 2006; Greenman, 1988; Palmer, 1916; Foster & Mattson, 1929; Garrison, 1926).

A number of authors (Moore & Wong, 1997; Hart, 1999; Louv, 2005: Spencer & Blades, 2006; Nabhan & Trimble, 1994; McKibben, 1989) write eloquently about the value of integrating habitats, gardens, wild places, and nature areas into outdoor areas and playgrounds. Collectively such works rekindle our attachment to nature and alert us to its value and gradual destruction. These authors help us understand what detachment from nature is doing to children and compel us to unplug our kids and let them again roam the wild places. In the *Ecologist,* Gill (2005) observed; "…children are disappearing from the outdoors at a rate that would make the top of any conservationist's list of endangered species if they were any other member of the animal kingdom." Almost a decade ago, speaking about effects of the destruction of nature and the importance of children's participation in sustainable development, Hart (1997, p. 3) wrote; "…people's relationship to nature is the greatest issue facing the world at the turn of the century".

City kids in confined schools and neighborhoods, especially those in slums and barrios, cannot be taken to the wilderness regularly, but thoughtful, innovative adults can bring exciting chunks of nature to city schools, neighborhoods, and parks. A number of playground planners are doing just that by helping child care centers, parks and schools rebuild their stark, fixed parks and playgrounds and integrating nature into limited spaces. Over a ten-year period, Moore and Wong (1997) transformed an asphalt schoolyard playground into a naturalized environment or "environmental yard." Their research and work with children is a profound expression of the value of play and natural habitats and a powerful example of qualitative research. Numerous other professionals (Burriss & Boyd, 2005; Stine, 1997; Rivkin, 1995; Spencer and Blades, 2006 ; Greenman, 2005) lend their research and experience in transforming sterile, fixed playgrounds into integrated play-yards featuring materials and natural environments that accommodate a wide range of developmental needs.

The University of Texas Play and Playgrounds Research Project (Frost, et al, 2005), has been operational for three decades at Redeemer Lutheran School in Austin, Texas. This research site features three playgrounds with both manufactured and contrived equipment to accommodate various forms and levels of play and games, vegetable and herb gardens, wet-lands, butterfly gardens, gazebos, greenhouses, and animal habitats. This outdoor environment is a science laboratory, a place for relaxation and reflection, a challenging playground for a wide range of children's play, and a site for scholarly research by university students and professors.

City farms, sometimes integrated with adventure playgrounds, are growing in popularity in many regions of the world. The European Federation of City Farms are

environmental and agricultural projects where children and adults work, play, and learn about the natural environment and its inter-relationship with plants and animals. The city farms started in the 1970's and resulted from the desire of people all over Europe to counter the alienation of people from nature. Presently, there are eight city farm federations in Europe and they are spreading around the world.

In India, where 20 million children are described as "street children," city farms provide for creative activities, skill development, income, and sustainable development (Udyvar, 2004). Sustainable development includes social equity, environmental soundness, economic viability, and results in meeting present needs in ways that do not compromise future generations. German children, not unlike American children, increasingly suffer from chronic and stress related diseases. Every fifth child suffers from sleeping problems and gastro nervous syndromes; one in four from allergies; one in three from obesity and other nutrition related diseases; and forty percent from motor deficits. In addition, drug abuse and violent behavior is common among young people. (Ginsburg, 2000). Work and play on city farms is therapeutic for these children. Surveys of German children show that they long for tree houses, caves, climbing walls and animals to complement traditional playgrounds.

A model city farm exists in St. Paul, Minnesota, where a poorly designed playground was transformed into a healthy place for children and adults and an environment for insects, birds, mammals, shelters, nooks and crannies, private structures, water, trees, and flowers. The environment is seen as both a "playground garden" and a "hidden curriculum," involving children in problem solving and design work (Wasescha & Ness, 2001). The design of playgrounds and city farms helps determine *how* children will use them and also *whether* they will be used. Boring playgrounds do little to resolve the boredom so prevalent among today's children.

Value of Spontaneous Play, Playgrounds, and Recess

On no other educational or child development issue is the body of evidence clearer – play is essential to the healthy development of children and to their adaptation to their culture, society and world. Beginning with the practices and views of the great reformers of the pre-twentieth century era, and continuing through decades of scholarly research, the conclusions have been consistently pro-play.

What is meant by the common term "play value" as applied to environments, materials, and equipment for play? Basically, the desired meaning is that play environments are selected, designed, or constructed to accommodate the play and games commonly chosen by the age and developmental levels of the children who play there. For example, exercise (practice) play for infants, dramatic (make-believe), and constructive play for preschoolers, and all the above plus games, traditional and invented, for all children. The contexts or environments for play may differ radically without sacrificing play value.

Play that is beneficial to children is play that is active, creative, and social, engaging the body in fine and gross motor development and the mind in negotiation, problem solving, imagination and flexibility. An extensive review of UK play research (Cole-Hamilton, et al, 2002) identifies a range of play values. Play encourages autonomous thinking and environment building, provides opportunities to practice new skills and functions, promotes flexibility in problem-solving, develops creative and aesthetic appreciation – all in a context of minimum risks and penalties for mistakes (p.15). In very general terms, play promotes cognitive development, social development, language development, physical fitness and health, learning and coping with trauma (Frost, 1997).

The therapeutic qualities of play are extensive, operating wherever play occurs, and contributing to a wide range of healing processes. The effects are most evident and documented in children's hospitals, centers for disturbed children, and places devastated by natural disasters and war (Frost, 2005). In such contexts, trained play therapists are usually at work, helping children express themselves through play in ways they cannot do verbally. An extensive body of research demonstrates the effectiveness of play therapy in helping traumatized and disturbed children (Landreth, 2002: Frost, et al, 2005).

A number of prominent scholars have conducted extensive studies of the games of children in different countries. These are researchers who immerse themselves into the play lives of children to seek out those events and words unseen by the common eye and unheard by the common ear that amplify the deeper meanings and values of children's games. They include Callois, 1961; Opie & Opie, 1969; Sutton-Smith (1972); Howard, 1977; Sluckin, 1981; Opie, 1993; Darian-Smith & Factor, 2005).

The body and mind building power of traditional games or folkgames are frequently overlooked as designers and keepers of play environments create playgrounds for children. As children approach school age their play evolves from the mind building experiences of symbolic or imaginative play and simple games into increasingly elaborate, organized and invented games, both traditional and contemporary. Development through play is a cumulative process with learning from earlier forms lending power, intellect, and motivation for engaging in later forms.

Games contribute to understanding the customs and institutions of various cultures (Callois, 1962). They become intertwined with daily life, imbued with competition and risk taking and mimicry or acting out roles. Children's active, spontaneous, exuberant, contrived games represent and yield skills of calculation, strategy, negotiation, contrivance, physical skills, and creation of rules and subordination to those rules. The implications for adaptation to society and preservation of culture are profound.

Far more basic kinds of knowledge than conventionally examined issues of physical, social, and cognitive skills reside in children's play and games. For example, learning about survival through risk taking, survival in the face of chaos, rising above boredom through engaging in nonsense, and coming to understand one's place in their

own culture (Sutton-Smith, 2005). In order to more fully understand the nature and importance of children's play, one must realize that fundamental survival skills are at stake and that the bizarre or dark sides of play and games play their roles in adaptation. The irrationality of play – violence, profanity, power, satire, pretense, rule-breaking, exaggeration, mockery – contributes to survival in an oft chaotic world.

Decades of research on the value of play is now supported by the research of neuroscientists concluding that play is essential for brain development. During the 1990's play, historically viewed by many as frivolous and unimportant behavior serving no apparent purpose, gained respect as biologists, neuroscientists, psychologists and other scholars learned that play is as important as other basic drives. Advanced tools of brain imaging allowed unprecedented insights into the role of experience, including play, in human development (Sylwester & Thatcher, 1996; Chugani, 1994). Because of rapid advances in imaging tools and compelling results, the 1990's were aptly called "the decade of the brain."

All healthy animals and humans play, and adults must give support and direction for play (Fagen, 1992). Animals and humans play most vigorously at precisely the time when brain cells are frenetically forming synaptic connections (Angier, 1992). The early games and frivolity of animals and humans equip them for skills needed as adults, including language, motor, and negotiation skills (Brown, 1994). Research at Baylor College of Medicine concludes that "children who don't play much or are rarely touched develop brains 20 percent to 30 percent smaller than normal for their age (Nash, 1997, p. 51). Brain development is truly a "use or lose it" process. Early experiences determine which neurons are to be used and which are to die, and consequently, whether the child will be brilliant or dull, confident or fearful, articulate or tongue-tied (Begley, 1996).

Play deprivation results in aberrant behavior (Brown, 1994, 1997, 1998): Frost & Jacobs, 1995). Whether a child ecomes a violent adult appears to be related to the existence of healthy attachment to adults and of positive early play behavior, including the opportunity to play extensively in supportive, playful contexts (Perry, 1996; Brown, 1994, 1997, 1998). Brown's fascinating studies of the genesis of violence for Charles Whitman, the University of Texas 1966 sniper, and his follow-up studies of convicted Texas murderers and drunks who had killed themselves and others, revealed striking commonalities in their childhoods. As a child, Whitman secluded himself on the playground and his father did not allow him to play at home. Ninety per cent of the murderers showed either the absence of play as children or abnormal play such as bullying, sadism, cruelty to animals, and extreme teasing. Seventy five per cent of the drunk drivers had play abnormalities. Obviously, there is good play, bad play, and no play. The recent, massive shift from outdoor play to indoor technology play is ample reason for deliberation and a compelling stimulus for scholarly inquiry.

The effects of play deprivation are graphically obvious in studies of orphans, especially Romanian orphans adopted by American families. Thousands of these children were reared in filthy, crowded conditions of almost total neglect (ABC News, 1996). Some were adopted by American families. Most failed to develop emotionally

and intellectually and one mother referred to hers as the "child from hell." Some never learned to talk, read, accept love, or apparently feel pain. Some were violent. PET scans by scientists at the Denver Children's Hospital showed that the children's brains were remarkably different from those of normal children.

Understanding the value of outdoor play and challenging playgrounds is intertwined with understanding the consequences of their dissolution. The present obesity epidemic among children is stark evidence of adults lending tacit approval for substituting sedentary techno-play and junk food for vigorous outdoor activity. Adults mess up by allowing children at home and school and in fast food and all-you-can-eat restaurants to pursue diets of junk food, sugar-filled drinks, and fatty foods. Many obese kids avoid social and physical play, become isolates on the playground, and can look forward to becoming fat adults with early health problems (Pica, 2006; Frost, 2004; Frost, et al, 2005).

Obesity is a rapidly expanding problem for children. Forty per cent of five- to eight-year-olds have at least one heart disease risk factor (Bor-Or et al, 1998), and from 1979 to 2000 the costs for hospital care for obesity related problems in children ages 6 to 17 rose from $34 million to $127 million per year (Center for Disease Control, 2005). One of the crucial keys for combating body fat is to engage in regular, vigorous exercise. The results are increases in cardiovascular endurance, muscular strength, endurance, flexibility, and higher percentages of lean body tissue to fat (NASPE, 2002; Pica, 2006). Challenging playgrounds, regular recess, and opportunities to engage in free play are excellent means to achieve these benefits (Frost, et al, 2004; Clements, 2005; Jarrett, 2003; Pellegrini, 1995). Recess also plays an important role in social development, classroom learning, health, child behavior, improved fitness and test scores, and ability to resolve conflicts. (See Pellegrini, 1995; Jarrett, 2003; Clements, 2005). William Dietz, a U.S government expert on nutrition and physical activity stated in a British Medical Journal editorial; "play may be the only requirement that young children need to increase their physical activity" (Dietz, 2006).

The view that children must somehow be sheltered from all risks of injury is a common misconception of adults. In the real world, life is filled with risks – financial, physical, emotional, social – and reasonable risks are essential for children's healthy development. Learning to handle risks is essential for children's cognitive and physical skill development, which allows them to protect themselves in challenging environments. Helping children handle risk is an essential feature of adult conduct for guiding children in being responsible for themselves and for the consequences of their activity (Smith, 1998). The playground is a unique place where children can take risks in a challenging environment without depriving them of opportunities to gain ever higher levels of independence in thought and action. Playground safety is both a function of preparing children for active, challenging play and for providing reasonably safe playgrounds (Frost & Henniger, 1979; Sutterby & Frost, 2002). A growing number of children are unsafe on any playground.

The training of adults who interact with children on playgrounds is a critical factor in helping ensure that children have extensive opportunities to play in healthy, reasonably safe environments, and opportunities for learning and development through play. In general, two professional groups seem to understand the value of play and sometimes get it right. These are many (not all) of the caretakers in the best child development centers, trained in child development and dedicated to learning through play, and playleaders and playworkers in adventure playgrounds. Consider the roles of playworkers in the UK. In summary, these revolve around training adults who understand and allow freedom during play– enabling children to follow their own play agendas, providing opportunities for exploration in play, responding appropriately to children's play cues, and introducing flexibility and adaptability into play environments (Brown, 2003). A playleader in Denmark put it even more succinctly: "to organize and arrange programmes is to stifle imagination and initiative and preclude children whose lively curiosity and interests constantly demand new outlets ((Lambert & Pearson, 1974, p. 18).

The Disappearance of Spontaneous Play and Recess

Play and recess are disappearing from many schools and neighborhoods (Pica, 2003, 2005). The International Play Association (Clements, 2005) reported that 40 per cent of American schools are abolishing recess or denying or reducing recess time to prepare for tests. Marano (2004*)* reported that 40,000 schools no longer have play times and added: "In the hothouse that child raising has become, play is all but dead … the organized sports that children engage in are organized by adults."

Spontaneous play is also disappearing from the large cities of other industrialized countries. Keiki Haginoya (1996) began preparing photo documentaries of children at play in the streets of Tokyo in 1979. Seventeen years later his life's passion had ended. The joyful, spontaneous play that once filled the streets, alleys and vacant lots had vanished. He mourned the transformation of children's culture of play – no more play in bushes, puddles, and hidden places. "The mere thought of growing into a social person without the experience of outdoor play makes me shudder" (p. 4).

By the turn of the 21st century, children's spontaneous outdoor play in homes and communities was in free fall, and recess and playgrounds were being eliminated in many public schools. This resulted from several interrelated factors: growing concern of parents about possible exposure of their children to criminal elements; rapidly growing popularity of technology play; high stakes testing or "No Child Left Behind" (NCLB) in public schools; expanding and inconsistent playground safety standards; lawsuits and threat of lawsuits.

Effects of High Stakes Testing

The high stakes testing movement resulted from widespread criticism of public schools and was championed in Texas for several years by politicians. The early

improvement in test scores led to the movement being called the "Texas Miracle," but these hopes were later dashed by widespread evidence of cheating in Houston, Dallas and many other Texas cities as well as political deals with publishers (CNN, 2005; Austin American-Statesman, 2004).

The most recent study of the effects of high stakes testing by the Education Policy Studies Laboratory of Arizona State University, conducted in 25 states, concluded that "…there is no consistent evidence that high stakes testing works to increase achievement" (Nichols, et al, 2005, p. 16). The system harms not only the "slower" students but also the "advanced" students. "The percentage of California students scoring in the 'advanced' math range on standardized tests declines by as much as half between second and fifth grade" (Goodkin, 2005, p. A-15). A revealing book, *The unintended consequences of high-stakes testing* (Jones, et al, 2003, pp. 169-171) lists 82 consequences of high-stakes testing, virtually all negative. These include consequences for educational resources and reform efforts, and consequences for students, teachers, instruction, and the community. For example, high stakes testing results in a narrowing of the curriculum, massive amounts of test preparation, student and teacher anxiety, cheating, and loss of instructional time. The consequences also include loss of play time, recess, and activities such as art, music, and physical education, which are not viewed as academic subjects or are not subject to high stakes testing. Perhaps the most severe consequence is states dictating to schools the content of instruction down to the last detail.

The percentage of students failing high stakes tests nation-wide is significantly higher in poverty area schools and among minorities. Latino scholars conclude; "when skyrocketing dropout rates and projected retention rates are factored in, the state's (Texas) 'miracle' looks more like a mirage" (Valenzuela, 2005, p. 1). They contend that high stakes testing is especially harmful for poor, minority, non-English speaking students, and call for fair, impartial assessment, using multiple criteria.

Newspapers across America, periodicals, and conversations with teachers reveal that teaching to the test and cheating are common practices. Teachers, administrators, children, and parents are pressured by threats of failure, demotion and retention, resulting in reduced focus on creativity, play time, creative arts, and physical education. Across America, school districts are abolishing recess or punishing children by denying recess (Ohanian, 2002, p. 2). The common rationale for this ill-informed behavior is demonstrating commitment to academic achievement as measured by standard tests.

Dozens of professional organizations (and counting) oppose high stakes testing in its present form but promote assessment based on multiple criteria, formative and summative assessment, adjusting for individual differences of students, and involving teachers in the creation and use of assessment tools. They reject the use of tests to punish teachers and children and hold that the testing system is deeply flawed. High stakes testing and standardization of school curricula are exerting nationwide deleterious effects on children's spontaneous outdoor play and consequently, their health.

A joint organizational statement on No Child Left Behind (2005) adopted by more than 60 education, civil rights, children's disability, and citizens organizations, commits to strong academic achievement in the schools, but opposes high stakes testing as currently practiced. Their objections include; overemphasis on test preparation (teaching to the test), using sanctions (punishment), excluding low performing children (cheating), inadequate funding, and lack of test validation and reliability. They propose changes including; replacing arbitrary criteria, using multiple assessment procedures, funding research and development, and replacing sanctions not linked to success.

Effects of Safety Standards on Play and Playgrounds

In 1981, the U. S. Consumer Product Safety Commission published the first playground safety standards or guidelines to gain nationwide significance (CPSC, 1981). ("Standards," and "guidelines" are used interchangeably here). In 1993 the American Society for Testing and Materials (ASTM 1993) published a safety standard for playground equipment. This standard was intended to provide greater technical details for manufacturers and to complement the CPSC guidelines. Both these documents were periodically revised. Over time, CPSC and ASTM became very influential in litigation, almost always prominent in arguments and frequently in judgments. Although there are exceptions to cases being decided on the basis of national standards, settlements and judgments based on violations of these standards led to their widespread recognition as "the national standard of care."

All 50 states have regulations, codes, or safety standards for child care center playgrounds. Only a few are referenced to the CPSC guidelines. These individual state standards, developed independent of other states, represent a mish-mash of playground safety standards which are inconsistent with the national guidelines and standards. Center operators, unwittingly following only their state standards, find that national standards usually prevail in legal settlements and court arguments. As state regulatory agencies revised their standards, making them more extensive, they built in regulations that are inconsistent with national standards. Center operators found that some equipment purchased from manufacturers meeting national standards was rejected by state inspectors, resulting in new equipment and previously acceptable equipment being taken out of service. (Frost, 2005; Frost, 2006).

With continuing revision, the national standards became increasingly detailed and voluminous with ASTM containing 55 pages by 2006. Each revision resulted in previously installed equipment being "out-of-compliance and subject to rejection by inspectors. This led to a number of options for schools - removing equipment, deleting recess, or allowing children to play on "out-of-compliance" equipment. Renovating equipment is rarely an option because of expense, problems of retrofit, or threat of lawsuits.

The present author personally works with a large city school system where 40 playgrounds were ruled "out-of-compliance" less than one year after installation. The

school system presently keeps children off the playgrounds because their state adopted CPSC guidelines and state inspectors "tagged" their equipment. Prior to this "tagging" the system had reduced play time to accommodate more high stakes test practice. Estimated cost of replacing the equipment is $2 million. (Frost, 2005). This, and other accounts from around the country, reveal that a range of factors are contributing to the national demise of play,

Effects of Lawsuits on Play and Playgrounds

The author's reviews of professional literature, and conversations with playground specialists and school and park officials at conferences and workshops across the United States, yield a common point of view. Litigation and threats of litigation enter heavily into deliberations about purchasing playground equipment and operating playgrounds and has influenced removing traditional "out-of-compliance" equipment across the United States. Few are willing to design or construct community built playgrounds or deviate from the standard practice of purchasing equipment from companies that certify compliance with CPSC, ASTM, and ADA (Americans for Disabilities Act). Recently, play equipment purchasers began to check for a manufacturer's membership in the International Playground Equipment Manufacturers Association (IPEMA), an organization of manufacturers that helps ensure compliance of equipment companies with ASTM. Multiple misconceptions among adults interested in children's play contribute to loss of exciting, developmentally beneficial play opportunities for children.

Many adults responsible for school and park playgrounds claim that certain play equipment, including swings, see-saws, merry-go-rounds, giant strides, and cable rides is hazardous, accounts for most injuries, and subjects sponsors to increased risk of litigation. Indeed old, traditional versions were hazardous, but all these types of equipment, in redesigned, safer and exciting forms, are readily available from manufacturers. For example, hazardous features such as axle pivots on see-saws were replaced with controlled action springs; battering ram animal seat swings were replaced with lightweight, resilient seats; merry-go rounds have enclosed bases and speed controllers. A range of contemporary types of play devices provide the challenges and thrills of traditional equipment. These devices represent only a limited example of the types of materials – natural and contrived – needed in children's play. All too commonly, adults responsible for designing, selecting and purchasing playground equipment make choices that are wasteful and expensive, that provide redundant challenges, that ignore many important forms of children's play and games, and that fail to take into account the range of interests and abilities of children across developmental levels.

As this paper is being prepared, news articles cite examples of how litigation is taking play out of kids' playgrounds. For example, Harding (2006) at KATU News, an ABC affiliate in Portland, Oregon, writes that the Portland Public Schools is removing swings from playgrounds and has rejected merry-go-rounds, slides, track rides, arch climbers, and teeter totters. In Broward County, Florida, an area experiencing numerous

playground injury lawsuits, a playground rule says "no running!" Even traditional games of dodge-ball and tether-ball are prohibited in some schools.

The litigation and playground safety issue is a two-faced beast. Litigation coupled with safety standards can call to account those who maliciously and knowingly cause damage to children and, on the other hand, excessive, overzealous litigation can defy all common sense. The present author first served as a consultant to a law firm in 1981,after seeing records of 32 shearing injuries on the same type of bouncing, rotating device in several states and reading from the deposition of the manufacturer's CEO that; "this device is as safe as modern technology can make it." Realizing that the manufacturer would take no corrective action, he assisted the plaintiffs and later consulted with U. S. Department of Justice attorneys and CPSC officials to help secure a nation-wide recall. At the time of the recall, more than 80 shearing injuries had been recorded on this type of device, most settling out of court, and many leaving no public record to help enforce accountability.

A second example, illustrating litigation out of control, resulted from a child falling over a stump in a small redwood forest on the playground of a state university laboratory school. Medical examination at a leading medical center found no injury to the child. Yet, a single one-sentence statement in the CPSC playground safety guidelines, was influential in reaching a judgment against the university system: "Look out for tripping hazards, like exposed concrete footings, *tree stumps*, and rocks" (CPSC, p. 43, emphasis added). This statement was intended to apply to the resilient surfacing under and around playground equipment. A common-sense question arises; what do you expect to find in forests if not stumps and rocks?

Comprehensive national research data about the effects of lawsuits and the threat of lawsuits on children's play and playgrounds are not available. The limited sources of information include anecdotal evidence, case studies, controlled studies, and information from experiences of playground professionals. Two studies (Frost, 1996; Frost & Sweeney, 1996) of serious playground injury lawsuits concluded that more than 90 per cent of the injuries would not have occurred if the playground equipment and/or surfacing had met CPSC and ASTM standards. The comprehensive evidence examined from more than 200 cases included on-site inspections, official injury reports, interviews with involved parties, depositions, and interrogatories. These studies, focused on cases of *serious* injuries including brain damage, compound fractures, asphyxiation, severe punctures, and spinal injuries. The findings indicated that using old, out-of-compliance equipment, coupled with inadequate maintenance were at fault in many cases. Fewer than a dozen of the cases appeared to represent frivolous lawsuits. The people expressing concern about lawsuits frequently fail to implement national safety standards, particularly with respect to maintenance. National playground safety surveys indicate that compliance by consumers is improving but still very problematic (Weintraub, 2002; Olsen, et al, 2004).

Safety standards have been effective in reducing fatalities and serious injuries for many consumer products. A controlled study of playground injuries in Canada (Howard,

et al, 2005) emerged from the removal of 86 elementary school playgrounds in Toronto. The equipment was replaced with equipment conforming to the Canadian Safety Standards (similar to U.S. standards) in 86 of these schools (intervention sites). Equipment was not replaced on another 225 playgrounds (non-intervention, control sites). Injury rate in the control schools increased from 1.44 student injuries per month to 1.81 during the study. In the intervention schools, the rate decreased from 2.61 per 1,999 students per month before removal to 1.68 after removal.

The removal of playground equipment frequently results from fear of litigation but also from overzealous, uninformed choices by playground designers and sponsors. There has never been a wider selection of developmentally beneficial playground equipment available or a wider selection of redundant, expensive, poorly designed options. Equipment is available for various age levels and for various forms of play – dramatic or make believe, constructive, traditional and organized games, art play, house play, wheeled vehicle play, social play, solitary play, group play, and extreme physical play. Equipment choices by purchasers are sometimes limited due to bad advice from manufacturer's representatives intent on selling the most massive, most expensive items, bad choices by school and park operators intent on selecting safe, indestructible, highly visible equipment requiring minimal maintenance; and lack of trained play leaders to assist in developing comprehensive, exciting, developmentally appropriate playgrounds.

Some manufacturers are now marketing expensive, mammoth, multi-tiered structures, adding little except height for possible play value. Such extravagant spending represents a waste of resources and loss of potential play opportunities. With skillful planning - using natural materials, selecting loose parts or portable materials, and wisely selecting built or purchased equipment, the cost of playgrounds may be radically reduced without increasing the risk of lawsuits. Unfortunately, deviating from "standard practice," coupled with discrepancies between state and national playground safety standards, may lead to problems with safety inspectors and can influence judgments in lawsuits.

Despite compelling evidence that lawsuits and threat of lawsuits result in removing playground equipment from schools and parks across America, other factors also contribute to the removal of equipment. Public schools in Texas enjoy tort immunity for playground injuries, yet schools throughout Texas, not unlike states lacking such immunity, are reducing or eliminating recess and/or choosing not to upgrade playgrounds. The reason most commonly given is to provide time to prepare for high stakes tests. Yet another puzzling factor is the contrast between private child care center and public school reactions to lawsuits. Both groups are sued but child care centers tend to retain and use their playgrounds and public school playgrounds may be removed. In a study of 190 playground injury lawsuits in 38 states and the District of Columbia, Frost & Sweeney (1996) found that 70 of the cases involved public schools, 48 involved public parks, 25 involved child care centers, and the remainder back yards, apartment complexes, private schools, fast food restaurants, and theme parks. High stakes testing appears to be deeply implicated in the deletion of recess and dissolution of outdoor play.

Conclusions and Recommendations

Collectively, research and experience indicate that a number of interrelated factors contributed to the diminution of spontaneous, outdoor play during the past two decades. These include: substitution of technology toys and play for spontaneous, outdoor play; parental fear of criminal activity against their children; lack of understanding of the value of outdoor play by parents, policy makers, and school officials; high stakes testing; playground safety standards; and lawsuits and threat of lawsuits. This paper addresses the last three of these factors and points out their effects on the health and development of children. These three factors, in present form and implementation, represent a triple threat or "perfect storm against the health, development, and education of children. Each represents potentially wise policies and regulations spiraling out-of-control.

Reforming High Stakes Testing.

The aims of high stakes testing, developed in political settings with limited professional influence, are contrary to decades of research and experience in education and child development. They are based on mechanized, industrial-type models designed for producing identical high-quality products from inanimate objects. The aim of educating highly creative individuals, capable of extraordinary reflective, visionary thought and action is subordinated to endless drill intended to produce robots who have the same answers for every problem – quite a giant-step away from the earlier practices of America's better schools.

Given the rejection of high stakes testing in its present form by virtually every major professional education and testing organization and demonstrated damage to teaching and learning in American schools, the law and policies of the broken No Child Left Behind program should be repealed or replaced. The major professional organizations most experienced in developing standards and assessment, working with educators and parents, are in the best position to develop procedures and criteria for judging success and for guiding curriculum and development of America's children. For example, the National Association for the Education of Young Children, with membership exceeding 100,000 has links to the best research and practices of the past century with respect to early childhood education. Theirs is perhaps the most reasoned and scholarly set of developmentally appropriate criteria for the education, development, and care of our youngest children (see Bredekamp,and Copple, 1997; Copple & Bredekamp, 2006).

The professional organizations committed, respectively, to various levels of education, to each academic subject, and to professional testing are in the best position to develop guidelines and assessment that are valid and reliable and to match them with curriculum that is developmentally appropriate for all children, including minorities, children with disabilities, and gifted children. The membership of these organizations includes the most gifted and experienced scholars and practitioners in their respective

fields – qualities that are essential for developing educational programs for an extremely diverse population. These organizations include the International Reading Association, the National Science Teachers Association, the National Council for Teachers of Mathematics, the National Council of Teachers of English, the Society for Research in Child Development, and other organizations enrolling the top scholars in their respective fields. Consultants, employed by government to promote political policies and philosophies, are in no position to employ a complex mix of research and development data and mandate national educational practices.

Reforming Playground Safety Standards.

In two papers published in *Today's Playground,* Frost (2005, 2006) addressed some of the current problems resulting from playground safety standards and made recommendations for improvement. The recommendations included:

1) Revise standards to focus on simplicity and hazards demonstrated by research and scientific data to result in serious, disabling injuries and fatalities. Leave child protection from low level hazards to parents and trained professionals.

2) Work with the National Electronic Injury Surveillance System to conduct research based on *specific* connections between serious injuries and *specific* hazards and the *specific* equipment elements addressed in the standards.

3) Focus playground safety standards on manufactured, consumer products and leave natural elements to the judgment of adults responsible for children, except for such elements as hazardous chemicals which are only detectable through scientific analysis.

4) Focus on training child caretakers and teachers and limit government restrictions and standards.

5) Prepare standards that are internally consistent and consistent across state and national boundaries.

6) Ensure that standards committees have wide representation from top professionals across disciplines studying play and playgrounds (e.g., education, child development, architecture, physical education, anthropology, psychology, kinesiology, manufacturing, and medicine) .

7) Select and train state and national safety inspectors emphasizing *both* practical experience and extensive training.

8) Ensure flexibility and provisions in standards to allow creative, innovative design and research.

9) Utilize the huge body of research on children's play and focus on developmental and play needs of children in standards development.

10) Revise existing standards to produce simple, condensed standards unlikely to need constant revision.

Lawsuit Reform.

"The notion of a riskless society is a peculiarly American one" (Andrews, 1998, p. D-1). Hundreds of playgrounds throughout Europe, especially in Scandinavian countries, England, and Germany, are more challenging and more fun than most American playgrounds, but in the eyes of most Americans, they are messy and hazardous. The European playground safety standard (European Committee for Standardization, 1998), prepared by representatives of 18 countries, wisely excludes adventure playgrounds from the standards because they are fenced and secured. They are operated by trained play-workers or play-leaders, use self-build equipment, and they have better safety records than traditional playgrounds. Key contributing factors for their safety record appear to be the quality of play-leader training and the existence of extensive opportunities for children to engage in challenging play, leading to improved cognitive, and physical performance and, consequently, improved ability to recognize and cope with potentially hazardous conditions.

European children typically play at greater heights on more challenging equipment and depend less on adult directives than do American children. They are unlikely to collect huge damage awards in injury lawsuits because European courts offer little compensation for injuries and virtually no punitive damages for negligence by manufacturers, operators, and doctors – even for very serious injuries. (Andrews, 1998). The European and American systems have radically different views of risk and responsibility. Europeans place greater responsibility on children and allow risk taking because it is essential for development. They believe that improper or excessive supervision can hinder opportunities for development. The European position is amply supported by research. For example, risk is inherent in all mammal (including human) behavior (Brown, 1997). Play itself enhances risk and the more active and adventuresome the child, the more risk she may assume or be prepared to safely assume.

Tim Gill (2005) would return play and playgrounds to their early primal state of "den-building, bug-hunting, and pond-dipping," Gill, a former director of the Children's Play Council at the UK Children's Bureau reports that the UK is "light years behind" cities in Germany, Denmark, and much of Northern Europe in providing natural playgrounds for children. Yet, accident claims in the UK remained static in recent years and then fell in 2004 by 9.5 per cent. UK courts are "…no more likely today to hand down daft judgments than they were 10, 20, or 100 years ago" (Gill, 2005).

Howard (2001), a prominent lawyer, presents a compelling case for lawsuit reform, explaining how playground equipment of historic interest and a source of challenge and pleasure is removed and replaced with "boring" safer alternatives in a

"headlong pursuit of safety" (p. 4). In an extensively documented essay, Barton (2006), also a prominent lawyer, presents an opposing case, arguing that potential product liability spurs redesign and innovation and has resulted in a quality revolution in public playgrounds. "We have eliminated the stark and joyless concrete and steel 'traditional' playground in favor of new playgrounds that are not only safer, but vastly superior on every count: more fun, more interactive, and more gauged towards play" (Barton, 2006, p. 1).

Despite arguments to the contrary, the reports and first-hand accounts of excessive litigation and standardization are substantial, compelling, and growing. News reports from every region of the country, anecdotal accounts, and experience of those who spend their careers studying children's play and play environments paint a picture of lawsuits and government regulations out-of-control. Reasonably safe, developmentally appropriate equipment is removed from playgrounds, recess is deleted from the school day, inane rules ban traditional games and running on playgrounds – and the list goes on…

The effects of lawsuits on play and playgrounds are intertwined with other compelling factors contributing to the dissolution of outdoor play- high stakes testing, excessive, contradictory safety standards, and the changing, regimented life-styles of American families. These factors, collectively and independently, contribute to the reduction of creative, absorbing play in natural contexts and to negative consequences for physical and emotional health. The solutions reside in political action (for which this author has limited experience or expertise), scholarly research which is in abundant supply, common sense, and the will of people to make changes to failing governing systems. Perhaps Howard (2001, pp. 212-213) has it right when he argues: "humans, not any objective system, must be the focus of any structure of government. " Perhaps he is onto something when he says: "all the systems erected to avoid human authority…need to be overhauled or dismantled." Perhaps Common Good will be the beginning of such a venture.

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