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Bibliography

11.1 References



A Chance to Play. 2009. *A chance to play: A manual promoting play for children in South Africa*. <http://www.a-chance-to-play.org/downloads.htm> [20 March 2011].

ACTIVE LEARNING LIBRARIES SOUTH AFRICA, [s.a.] *An introduction to toy and leisure libraries*. www.activelearninglibraries.org.za/word/IntroductiontoToyLibrariesinSouthAfrica.doc [7 April 2011].

ALEXANDER, C., ISHIKAWA, S. and SILVERSTEIN, M. 1977. *A pattern language*. Oxford: Oxford University Press.

ATTOE, W. and LOGAN, D. 1992. *American urban architecture: catalysts in the design of cities*. Berkeley: University of California Press.

BERRY, P. 2001. *Playgrounds that work*. New South Wales: Pademelon Press.

BIXLER, R.D., and FLOYD, M.F. 1997. Nature is scary, disgusting and uncomfortable. *Environment and Behaviour*, 29:443-467. http://0-find.galegroup.com.innopac.up.ac.za/gtx/retrieve.do?contentSet=IAC Documents&resultListType=RESULT_LIST&qrySerId=Locale%28en%2C%2C%29%3AFQE%3D%28ke%2CNone%2C44%29Nature+is+scar+y+disgusting+and+uncomfortable%3AAnd%3AFQE%3D%28jn%2CNone%2C26%29%22Environment+and+Behavior%22%24&sgHitCountType=None&inPS=true&sort=Date Descend&searchType=AdvancedSearchForm&tabID=T002&prodId=AONE&searchId=R1¤tPosition=1&userGroupName=up_itw&docId=A19656735&docType=IAC [24 July 2011].

BONNIE, 2011. Personal communication with resident of Sunnyside, 16 July 2011, Pretoria.

BREDENKAMP, G.J., BROWN, L.R. and MOSTERT, T. 2004. *A vegetation report on a ground truthing exercise to verify the plant communities of the Faerie Glen Nature Reserve, Pretoria*. Report prepared for Eco Assessments. Pretoria: Enviroguard Ecological Services CC.

BROWN, G., BROWN, B.B. and PERKINS, D.D. 2004. New Housing as Neighborhood Revitalization : Place Attachment and Confidence Among Residents. *Environment and Behavior*, 36(6):749-775. <http://eab.sagepub.com/content/36/6/749> [14 October 2010].

COLEY, R.L., KUO, F.E. and SULLIVAN, W.C. 1997. Where does community grow: The social context created by nature in public housing. *Environment and Behaviour*, 29(4): 468-495. <http://0-eab.sagepub.com.innopac.up.ac.za/content/29/4/468> [31 October 2010].

COOPER MARCUS, C., and FRANCIS, C. (eds). 1998. *People places: Design guidelines for urban open space*. 2nd ed. New York: John Wiley

CONWAY, M. 2010. *Adventure playgrounds built by communities*. [London]: National Children's Bureau.

DATTNER, R. 1969. *Design for play*. New York: Van Nostrand Reinhold.



DE BOTTON, A. 2006. *The architecture of happiness: The secret art of fun*. Penguin Books.

DEE, C. 2001. *Form and fabric in landscape architecture*. London: Spon Press.

DEPARTMENT OF PLANT SCIENCE, UNIVERSITY OF PRETORIA. (SAMPSON, J.) Personal communication, 26 September 2011. Appropriate climbing plants. Pretoria: [Author].

DINWIDDIE, S. A. 1993. *Playing in the gutters: enhancing children's cognitive and social play*.

http://ccrnj.org/acrobat_docs/playing_in_the_gutter.pdf [11 August 2011].

ENVIRONMENTAL PLANNING SECTION, 2006. Tshwane Open Space Framework: Executive Summary. Pretoria: Department of Housing, City Planning and Environmental Management.

EVANS, G. 2003. The built environment and mental health. *Journal of Urban Health*, 80(4):536-555. <http://0-www.springerlink.com.innopac.up.ac.za/content/332145g14675h745/fulltext.pdf> [6 May 2011].

FREUDER, T. G. 2006. Designing for the future: Promoting ecoliteracy in children's outdoor play environments. Unpublished ML. (Prof) thesis, Virginia Polytechnic Institute and State University, Alexandria VA.

FROST, J.L. [2006]. *The dissolution of children's outdoor play: causes and consequences*. http://cgood.org/assets/attachments/Frost_-_Common_Good_-_FINAL.pdf [25 April 2011].

GILL, T. 2005. *If you go down to the woods today*. <http://www.rethinkingchildhood.com> [19 April 2011].

GOODENOUGH, E. 2003. *Secret spaces of childhood*. Michigan: University of Michigan.

HART, R.A. 1982. Wildlands for children: Consideration for the value of natural environments in landscape planning. *Landschaft+Stadt*, 14(1):34-39.

<http://0-web.gc.cuny.edu.innopac.up.ac.za/che/cerg/documents/wildlands%20for%20children.pdf> [1 November 2010].

HARVARD GRADUATE SCHOOL OF EDUCATION. 2002. *Who needs imagination? An interview with Professor Paul Harris*. <http://www.gse.harvard.edu/news/features/harris03012002.html> [24 July 2011].

HERRINGTON, S. and STUJTMANN, K. 1998. Landscape interventions: new directions for the design of children's outdoor play environments. *Landscape and Urban Planning*. 42:191-205, http://0-www.sciencedirect.com.innopac.up.ac.za/science?_ob=ArticleURL&_udi=B6V91-3VGJG44-C&_user=59388&_coverDate=12%2F07%2F1998&_



HERZOG, R.T. and STREVEY, S. J. 2008. Contact with nature, sense of humor, and psychological well-being. *Environment and behaviour*, 40(6):747-776. <http://eab.sagepub.com/content/40/6/747> [25 February 2011].

HURTWOOD, A. 1966. *New playgrounds*. London: Thames and Hudson.

HURTWOOD, A. 1969. *Planning for play*. London: Thames and Hudson.

JACOBS, J., 1961. *The life and death of great american cities*. London: Pelican Books.

JOUBERT, O., and DE VILLIERS, B. 2009. *Rejuve-a-nation proposal for the city of Tshwane/Pretoria*. Pretoria: Consortium Fook.

KADUSON, G.G. 2006. Release play therapy for children with posttraumatic stress disorder. In: Kaduson, H.G. & Schaefer, C.E. 2006. (eds) *Short-term play therapy for children*. New York: The Guilford Press.

KELLERT, S. F. 2005. Reflections on Children's Experience of Nature. *C&NN Leadership Writing Series*, 2(1):1-5. www.childrenandnature.org/downloads/CNN_LWS_Vol1_02.pdf [5 May 2011].

KELLING, G. L. & WILSON, J. Q. 1982. *Broken windows: The police and neighbourhood safety*. The Atlantic, 1982 (2). <http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/4465/> [23 September 2011].

KIM, J. and KAPLAN, R. 2004. Physical and psychological factors in sense of community : New urbanist Kentlands and nearby Orchard Village. *Environment and Behavior*, 36: 313 <http://eab.sagepub.com/content/36/3/313> [1 November 2010].

KIPLING, R. 1912. *Just so stories*. New York: Doubleday Page & Company.

KOZLOVSKY, R. 2006. *The junk playground: creative destruction as antidote to delinquency*. Paper presented at the Youth and Threat Conference, New York, 1 April 2006, <http://threatnyouth.pbworks.com> [27 February 2011].

KUO, F.E. and TAYLOR, A.F. 2004. A potential natural treatment for attention-deficit/hyperactivity disorder: Evidence from a national study. *American Journal of Public Health*, 94(9):1580-1586. <http://ajph.aphapublications.org/cgi/reprint/94/9/1580> [1 August 2010].

KUO, F.E., BACAICOA, M. and SULLIVAN, W.C. 1998. Transforming inner-city landscapes : Trees, sense of safety, and preference. *Environment and Behaviour*, 30(1):28-59.

<http://eab.sagepub.com/content/30/1/28> [14 October 2010].



LAMBERT, J. and PEARSON, J. 1974. *Adventure playgrounds*. London: Penguin Books.

LEWIS, C.J. 1950. *The lion, the witch and the wardrobe*. London: Geoffrey Bles.

LINDEN, J.H. 2003. Playful metaphors. *American Journal of Clinical Hypnosis*, 45(3):245-250. <http://www.asch.net/portals/0/journallibrary/articles/ajch-45/linden.pdf> [29 September 2011].

LILLIS, K.A. and JAFFE, D.M. 1997. Playground injuries in children. *Paediatric Emerging Care*, 13(2):149-53. <http://www.ncbi.nlm.nih.gov/pubmed/9127428> [15 March 2011].

MACMILLAN, D.W. and CHAVIS, D.M. 1986. Sense of community: a definition and theory. *Journal of Community Psychology*, 14:7-23. <http://0-www.arts.manchester.ac.uk.innopac.up.ac.za/cia/projects/constantinesdream/events/hawardenmaterial/session%205%20files/fileuploadmax10mb,169310,en.pdf> [13 July 2011].

MCLOYD, V.C. 1990. The Impact of economic hardship on black families and children: psychological distress, parenting, and socio-emotional development. *Child Development*, 61(2):311-346. <http://www.jstor.org/stable/1131096> [1 November 2010].

MISRACHI, D. and WHITZMAN, C. 2009. *Vertical living kids: Creating supportive environments for children in Melbourne Central City high rises*. Report for the State of Australian Cities 2009 (SOAC 2009), Melbourne, 24-27 November 2009, <http://www.apo.org.au/node/22443> [3 November 2010].

MORROW, V. M., 2010. 'Dirty looks' and 'trampy places' in young people's accounts of community and neighbourhood: Implications for health inequalities. *Critical Public Health*, 10(2):141-152. <http://dx.doi.org/10.1080/713658244> [6 May 2011].

MUCINA, I., & RUTHERFORD, M.C. (eds). 2006. *The vegetation of South Africa, Lesotho and Swaziland*. Pretoria: South African National Biodiversity Institute

NASAR, J. L. and JULIAN, D. A. 1995. The psychological sense of community in the neighborhood. *Journal of the American Planning Association*, 61(2):178-184. <http://dx.doi.org/10.1080/01944369508975631> [7 October 2010].

NEWMAN, O. 1996. *Creating defensible space*. [Rutgers]: U.S. Department of Housing and Urban Development

NOREN-BJORN, E. 1982. *The impossible playground*. New York: Leisure Press.

ORGANIZATION OF AFRICAN UNITY. 1990. *African charter on the rights and welfare of the child*. (OAU Doc. CAB/LEG/24.9/49) http://www.africa-union.org/official_documents/Treaties_%20Conventions_%20Protocols/a.%20C.%20ON%20THE%20RIGHT%20AND%20WELF%20OF%20CHILD.pdf [16 March 2011].

PEARSON, M. and WILSON, H. 2001. *Sandplay and symbol work: Emotive*
Council for Educational Research.



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

velopment with children, adolescents and adults. Melbourne: Australian

PELLEGRINI, A.D. and SMITH, P.K. 1998. Physical activity play: The nature and function of a neglected aspect of play. *Child Development*, 69(3):577-598. <http://0-onlinelibrary.wiley.com/innopac.up.ac.za/doi/10.1111/j.1467-8624.1998.tb06226.x/pdf> [1 November 2010].

PERES, E. 2005. *Mindscape: a centre for creative development in Sunnyside.* Unpublished M. Arch (Prof) thesis, University of Pretoria, Pretoria.

PIM, J. 1971. *Beauty is necessary.* Cape Town: Purnell & Sons.

SABS, 2010. SANS 51176:2010 *South African National Standard: Playground equipment and surfacing.* 1st edn. Pretoria: SABS.

SARASON, S. B. 1974. *The psychological sense of community: Prospects for a community psychology.* San Francisco: Jossey-Bass.

SKAWRAN, K. and MACNAMARA, M. (eds) 1985. *Walter Battiss.* Craighall :AD Donker Publishers.

SLENTZ, K. and KROGH, S. 2001. *Early childhood development and its variations.* London: Lawrence Erlbaum Associates.

SOUTH AFRICA. City Planning and Development Division. 2008. *Tshwane Town Planning Scheme, 2008.* Pretoria: Government Printer.

SOUTH AFRICA. National Archives of South Africa. Letters from town clerk to Macintosh and Cross, 1925.

SOUTH AFRICA. National Archives of South Africa. [s.a.]. Map of Pretoria and suburbs.

SOUTH AFRICA. 1998a. *National Environmental Management Act (NEMA), Act no. 107 of 1998.* Pretoria: Government Printer.

SOUTH AFRICA. 1998b. *National Water Act, No. 36 of 1998.* Pretoria: Government Printer.

SOUTH AFRICA. South African Police Service. 2010. *Crime statistics for Sunnyside.* <http://www.saps.gov.za/statistics/reports/crimestats/2010/provinces/gauteng/pdf/sunnyside.pdf> [5 April 2011].

SPENCER, C. and BLADES, M. 2005. *Children and their environment.* Cambridge: Cambridge University Press.

STAEMPFLI, M.B. 2009. Reintroducing adventure into children's outdoor play environments. *Environment and Behaviour*, 41(2):268-280. <http://eab.sagepub.com/content/41/2/268> [8 April 2011].



STATS SA. (OLIFANT, K.) Personal communication, 19 April 2011. *Demog. a suburbs*. Pretoria: [Author].

STATS SA. 2010. *Mid-year population estimates, 2010*. Statistical release P0302. Pretoria : Statistics South Africa.

STRIFE, S. and DOWNEY, L. 2009. Childhood development and access to nature : A new direction for environmental inequality research. *Organization & Environment*, 22(1):99-122. <http://oae.sagepub.com/content/22/1/99.refs.html> [1 November 2010].

TAYLOR, A.F., KUO, F.E., SULLIVAN, W.C. and WILEY, A., 1998. Growing up in the inner city: green spaces as places to grow. *Environment & Behaviour*, 30(3):3-27. <http://eab.sagepub.com/content/30/1/3> [6 May 2011].

TITMAN, W. 1994. *Special places, special people: the hidden curriculum of school grounds*. Surrey: World Wide Fund United Kingdom.

TREIB, M. 1995. Must landscapes mean? In: Swaffield, S. 2002. (ed) *Theory in landscape architecture: A reader*. University of Pennsylvania Press: Philadelphia

UNGER, D.G. and WANDERSMAN, A. 1985. The importance of neighbors: the social, cognitive and affective components of neighbouring. *American Journal of Community Psychology*, 13(2):139-169.

UNITED NATIONS. 1989. *Convention on the Rights of the Child*. <http://www2.ohchr.org/english/law/pdf/crc.pdf> [12 April 2011].

VAN WYK, B. 2003. *A photographic guide to wild flowers of South Africa*. Pretoria: Briza Publications.

WANG, S. 2002. *The power of magical thinking : Research shows the importance of imagination in children's cognitive development*. Wall Street Journal, 22 December. <http://online.wsj.com/article/SB10001424052748703344704574610002061841322.html> [24 July 2011].

WEAVER, L. 2000. Learning Landscapes, Theoretical Issues and Design Considerations for the Development of Children's Educational Landscapes. Unpublished ML (Prof) Thesis, Virginia Polytechnic Institute, Virginia.

WELLHOUSEN, K. 2002. *Outdoor play every day*. New York: Delmar.

WELLS, N.M. 2000. At home with nature : Effects of "greenness" on children's cognitive functioning. *Environment and Behaviour*, 32(6):775-795. <http://eab.sagepub.com/content/32/6/775.refs.html> [14 October 2010].

WHITE, J. 2008. *Playing and Learning Outdoors*. Oxon: Routledge.

WILSON, R. 2008. *Nature and young children: Encouraging creative play and learning in natural environments*. New York: Routledge.

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