

STATUS  
Considering  
SOURCE  
WSILL  
BORROWER  
KSL  
LENDERS  
\*SUF

TYPE  
Copy  
REQUEST DATE  
07/17/2014  
RECEIVE DATE

OCLC #  
30087015  
NEED BEFORE  
08/16/2014



127864855

DUE DATE

**BIBLIOGRAPHIC INFORMATION**

LOCAL ID  
AUTHOR *PER*

ARTICLE AUTHOR VON BENZON

TITLE Disability & society.

ARTICLE TITLE Moving on from ramps? The utility of the social model of disability for facilitating experiences of

IMPRINT Abingdon, Oxfordshire : Carfax Pub. Co., ©1994-

FORMAT Serial

EDITION

ISSN 0968-7599

VOLUME 25

DOI 10.1080/09687599.2010.489313

NUMBER 5

DATE AUG 2010

PAGES 617-626

**INTERLIBRARY LOAN INFORMATION**

ALERT

AFFILIATION KLN, SOLINE, SO6, LVIS

COPYRIGHT US:CCG

VERIFIED WORLDCAT Physical Description: volumes ; 25 cm

MAX COST

SHIPPED DATE

LEND CHARGES

FAX NUMBER 502.564.7859

LEND RESTRICTIONS

EMAIL [anthony.gill@ky.gov](mailto:anthony.gill@ky.gov)

BORROWER NOTES ARTICLE EX PREFERRED FOR COPIES

ODYSSEY

ARIEL FTP

ARIEL EMAIL

*Article Exchange*

BILL TO

same  
, US

**SHIPPING INFORMATION**

SHIP VIA Best Method  
SHIP TO

RETURN VIA  
RETURN TO

ILL - KENTUCKY DEPT FOR LIBRARIES AND  
300 COFFEE TREE ROAD  
FRANKFORT, KY, US 40601

## **Moving on from ramps? The utility of the social model of disability for facilitating experiences of nature for disabled children**

Nadia von Benzon\*

*University of Manchester, Manchester, UK*

*(Received 24 April 2009; final version received 1 September 2009)*

Experiences of nature have been shown to be beneficial for disabled children; however, opportunities for disabled children to experience nature are often limited. The social model of disability may provide a theoretical base for increasing access to nature for pupils at Special Educational Needs (SEN) schools. Using results from interviews conducted with teachers from seven SEN schools, considered alongside responses from interviews with staff from six environmental centres, this paper seeks to identify the specific constraints that may act upon the opportunities for disabled pupils to visit environmental centres. The research finds that a 'medicalised' approach to access may impede upon environmental centres' ability to cater effectively to the needs of SEN school groups. Dialogue between environmental centres and SEN school teachers is recommended as a means of facilitating SEN school group access.

**Keywords:** disability; children; nature; environmental access; constraints

### **Review of literature**

#### ***The importance of experiences of nature to children***

In the US, the relationship between children and nature has been a popular topic of academic enquiry since the early 1970s (see Shafer and Mietz 1969; Kaplan 1974; Scott 1974). Research has shown that experiences of nature provide a wide range of benefits, particularly to children (see Cuvo et al. 2001; Taylor et al. 2001; Kahn 2002). Kong (2000) categorises these benefits as developing skills related to learning, caring and playing. Further analysis shows that these benefits are both individual benefits, such as educational and developmental (Kahn 2002) and health-related (Kaplan 1995), and benefits to society at large, such as environmental (UNICEF and UNEP 1990), social (Taylor et al. 1998), and economic (Sherer 2006). Ballantyne et al. (1998) further argue for a secondary benefit of experiences of nature, showing that children who are provided with adequate environmental education have the potential to educate adults about the environment.

#### ***Deteriorating relationship between children and nature***

Despite the wealth of research indicating the positive affects of children's interaction with nature, there is evidence to show that the quality and quantity of children's

---

\*Email: [nadia.vonbenzon@postgrad.manchester.ac.uk](mailto:nadia.vonbenzon@postgrad.manchester.ac.uk)

experiences of nature are diminishing. Recent studies have shown significant reductions in the amount of time children spend in the countryside (see Commission for Rural Communities 2005; Pergams and Zaradic 2006), whilst Balmford et al. (2002), Bebbington (2005), Collins (2008) and the National Trust (results published in national newspapers such as *The Independent Online* and *Mail Online*, August 2008) have illustrated the result of this lack of contact with the outdoors by showing that British school pupils cannot effectively recognise common British wildlife.

This 'denaturing' of children (McKee 2008) is commonly attributed to reductions in the amount of time children are allowed to spend playing independently outside, and a decrease in the distance they are allowed to travel from home unsupervised (Clements 2004; Wridt 2004). This decline in the independent mobility of children is widely considered a result of: adult fears regarding traffic and strangers (Valentine and McKendrick 1997; Farmer 2005; BBC News 2008; Playday 2005); pressure on timetables limiting the amount of free play time available to children (Hofferth and Sandburg 2001; Burdette et al. 2005); and the lure of other technology-based indoor activities such as computers, televisions and games consoles (McKee 2005; Roberts et al. 2005).

#### *Environmental access as a particular issue for disabled children*

According to Hart (1978), children's range of independent mobility is not a fixed quantity but a space which is constantly negotiated between a child and their carers. Hart argues that this negotiation centres on the carers' perceptions of the ability of the child, and their perception of the risks of the local environment. Hart's model suggests that disabled children are more likely than non-disabled children to have restricted ranges of independent mobility as they are more likely to be perceived by their carers to have lower capabilities, whether intellectual or physical, than their non-disabled peers. Subsequently they may be considered to be at greater risk independently negotiating their local area. Studies also show that disabled children are less likely to go out with friends than non-disabled children (Aitchison 2000), further reducing their opportunities for independent exploration of the local area (Mackett et al. 2007).

Opportunities for disabled children to spend time in the natural environment accompanied by their families may also be fewer than for non-disabled children. Disabled children are more likely to grow up in low income households than non-disabled children (Contact a Family 2007), suggesting there may be less prospect of travelling together to participate in outdoor leisure activities. Further, negotiating the needs of different family members and organising activities such as therapies, may occupy a great deal of carers' time, leaving little chance for outdoor recreation (Mactavish and Schleien 2004; Chan et al. 2005; Green 2003). Shelley (2002) found that parents of disabled children identified a range of barriers to undertaking leisure activities with their disabled children, including: long queues, being made to feel uncomfortable, expense, distance and transport restrictions.

#### *Applying the social model of disability*

None of the barriers to accessing leisure activities presented above are direct results of impairment but rather products of social reactions, or non-reactions, to impairment which lead to stigma, exclusion, inappropriate facilities or resources and environmental barriers to access. This conclusion is reinforced by Murray (2004) who found that

disabled young people were unable to access leisure services due to society's interpretation of their disability and resultant practices leading to isolation, rather than their impairment itself. The recognition that disability is a product of society's failure to meet the physical, social and emotional needs of impaired people is a concept well embedded within disability theory in Britain (Oliver 2004). Further, Murray (2004) argues that this social model of disability is beginning to become embedded in legislation and policy rhetoric. However, Murray identifies this as being in clear contrast to the practices of leisure service providers who operate within a medical model of disability, supposing that impairment results in dependency and vulnerability and logically leads to exclusion from social activities.

Tregaskis (2004) similarly used social model ideas to discuss disabled adults' access to the countryside, finding that countryside practitioners have traditionally operated access from within this medical model of disability. Tregaskis identifies this practice as leading to a culture of overprotection of disabled people, preventing them from engaging in experiencing nature in the same way as non-disabled people. The work of both Tregaskis (2004) and Murray (2004) suggests that it is the understanding of disability held by service providers that is crucial in determining access to leisure activities for disabled people and that for disabled people to be included in leisure activities, service providers' understandings must reflect the social model of disability.

For this reason, this research has sought to engage with service providers managing environmental resource facilities as well as with schools to attempt to identify the ways in which childhood disability and the importance of interaction with the natural environment is understood by representatives of these two groups of organisations. Schools have been chosen as an environment for exploring disabled children's access to nature rather than families for a number of reasons. Primarily, this is due to an understanding reflective of Steine's (1997, 194) comment that: 'School grounds are the primary environments that provide children a chance to be connected to an outdoor environment on a regular basis'. However, there was also the pragmatic incentive that contacting schools provided an efficient means of outlining some of the experiences of large groups of children in a relatively short time frame.

## Method

From an initial sample of 51 schools in three LEAs; one predominantly rural LEA in central England, one urban LEA in Scotland and one rural LEA in Scotland, seven telephone interviews or email questionnaires were completed. Five of the schools were state-funded day schools. One of the schools was an independent boarding school. Respondents from schools were unit heads, head teachers or deputy head teachers, except in one case where the interviewee was a class teacher.

### *Participating schools*

- *C School* is a state-run SEN school for pupils aged 2–16 with severe learning difficulties and complex needs including physical disabilities. *C School* currently has about 30 pupils.
- *D School* is an independent SEN boarding school for pupils with complex physical support needs aged 5–18. The school currently has about 30 pupils.

- *G School* is a state-run SEN school, currently catering for children up to the age of 16 with severe and profound learning disabilities and multiple disabilities. There are approximately 100 pupils at the school, divided into 11 classes.
- *H School Autistic Unit* is situated in a mainstream state-run high school. The unit has about 40 pupils.
- *I School* is a state-run school for 2- to 19-year-olds with sensory impairments. There are currently almost 50 pupils at the school.
- *J School* is a state-run school in Scotland for children with physical disabilities and additional needs. The school has about 50 pupils.
- *T School* is a state-run SEN school catering for children aged 5–16 with severe learning disabilities. The school has about 100 pupils in 13 classes on two sites (split primary and secondary).

All six environmental centres approached for the research responded. Five of these were surveyed using a telephone interview. One responded to questions via email. The environmental centres were located in central England and were chosen to represent a variety of sizes of institution and sorts of natural environment experience, they were: Birmingham Nature Centre; Oxford University Botanic Gardens; Royal Botanic Gardens at Kew; Slimbridge Wetland Centre; Trentham Monkey Forest; and Twycross Zoo.

## Results and discussion

### *Opportunities to experience nature in school*

Responses showed that the SEN schools provided pupils with a wide variety of regular opportunities to experience nature, both during formal lessons and during breaks and other recreational time. All schools reported having elements of nature within school grounds such as: grassy areas; raised beds; nature gardens; or sensory gardens. Popular activities undertaken on and off-site included: gardening and vegetable growing; a countryside stewardship scheme; farm trips; horse riding; sailing; horticulture lessons; tending chickens; and bike riding. Two schools catering for pupils with moderate to severe learning disabilities or physical impairments stated that pupils were not able to play in the school grounds without close adult supervision due to the risks this posed. Other schools did suggest that pupils could play relatively freely in the school grounds during their free time. Schools reported that onsite nature areas were less accessible in winter.

All schools also reported regular trips offsite and annual residential holidays which included experiences of nature. Further, interviewees talked about bringing nature into the classroom in the form of plants or animals and incorporating nature into science lessons and art lessons. Two of the schools, both catering for students with severe learning disabilities, felt that they offered the optimum amount of opportunities for students to experience nature, whilst the two schools catering for pupils with physical disabilities, felt that pupils would benefit from more opportunities to experience nature. However, constraints to accessing the natural environment were identified for all schools including those that claimed to offer the optimum amount of opportunities.

### *Motivations for providing experiences of nature*

Both the school and the environmental centre interviewees were asked why they thought it was important to provide experiences of nature to children, and what they

saw as the benefits of providing children with these experiences of nature. All school interviewees answered in terms of the perceived benefits to the child. In referring to benefits children experienced, staff identified benefits relating to 'learning', 'caring' and 'playing', in line with Kong (2000). However, teachers emphasised the educational or 'learning' benefits. These were identified as both benefits to the child and the positive impact on society of providing children with opportunities to learn in this way, reflecting the findings of UNICEF and UNEP (1990) and others regarding the benefits of natural environment access for non-disabled children. School interviewees saw that experiences of nature helped to broaden pupils' education and ground theoretical class work in reality. A number of teachers referred to their pupils' need to 'learn through doing', and saw experiences of nature as a means of facilitating this.

Teachers also talked about practical experience as being motivating for children. Some teachers, such as the interviewee at T School, saw experiences of nature as indirectly aiding learning, through providing pupils with an alternative environment to the classroom in which to 'take time out' and burn off energy before returning to the classroom. Two interviewees discussed the value to development of allowing children independence and risk-taking opportunities. School interviewees also recognised socio-environmental benefits to providing children with experiences of nature, arguing that children who experience nature will develop better environmental awareness and become engaged with issues of sustainability, so developing more environmentally-friendly behaviours. The teacher at G School stated that as children learnt ways in which they could live in a less environmentally-damaging way, they would in turn educate their parents, thus reflecting the findings of Ballantyne et al. (1998).

Second to the educational benefits of visits to the natural environment, school interviewees identified 'caring' and 'playing' as important functions of experiences of nature. 'Caring' was most commonly discussed in terms of the development of environmental awareness and a sense of stewardship towards the natural environment. 'Caring' was also discussed in terms of social interactions, as the teacher from T School explained that children were able to learn to care for both animals and people through group work and other activities in the natural environment. Whilst teachers talked about students developing enjoyment of the natural world, or enjoying spending time with others, only the teacher at J School identified 'fun' and 'enjoyment' first when listing the reasons that experiences of nature were provided for pupils. The interviewee at J School was also the only teacher to explicitly identify 'physical development', 'physical activity' and 'benefits to health and well-being' as reasons for providing experiences of nature for pupils.

When environmental centre staff were asked to identify the main benefits which they felt disabled children would gain from a visit to the centre, responses focused on the opportunity for play, identifying particularly the value of 'large open spaces', 'physical engagement', and 'excitement'. Interviewees also identified the opportunity to experience new things, both in terms of visiting a different environment and also being able to try new activities. Environmental centres identified literal aspects of visits, such as; 'immediacy', 'sensory aspects' and 'being close to wildlife' as benefits, but did not link these to learning in the classroom, as had been done by school interviewees.

Only two environmental centre interviewees, those at Slimbridge Wetland Centre and Trentham Monkey Forest, explicitly acknowledged the visit as offering a chance for children to learn about the wildlife at the centre, with only one presenting this first as an example of a benefit. These two interviewees were also the only respondents to identify the opportunity that visits gave for pupils to develop a sense of environmental

stewardship or respect for the natural environment. The interviewee at Trentham Monkey Forest identified the responsibility that pupils were given to behave appropriately towards wildlife on site as a benefit. Two other interviewees mentioned social benefits for disabled children, identifying the opportunity for inclusion onsite as disabled children could participate in the same activities as non-disabled children. Further, two sites identified personal development benefits: the opportunity for exercise through a 'good walk' and the development of confidence as a result of the experience of the visit. The majority of environmental centre staff did not recognise educational benefits as being significant, and did not recognise the agency of disabled children to behave in an environmentally beneficial manner or influence others to do so.

### *Barriers to school pupils' experiences of nature*

Six out of the seven schools identified the main barriers to experiences of nature for their pupils as being resourced-based constraints: 'cost'; 'time'; 'staffing'; and 'land availability'. The six schools mentioning these types of constraints described these constraints first, or emphasised that they were the most significant sort of constraint experienced by the school in trying to provide experiences of nature to pupils. Only School D, catering to physically disabled pupils, mentioned physical access difficulties as the primary constraint to accessing experiences of nature. Physical access issues were also mentioned by the interviewee at School C, but despite the high number of physically disabled students at the school, physical access was not seen to present as great a barrier to access as resource constraints. By contrast, all of the environmental centre staff interviewed identified physical constraints as the primary difficulty that would be faced by disabled people visiting the site. Only the interviewee from Twycross Zoo mentioned a resource constraint, identifying the cost of transport to the site as a potential barrier to school visits.

Another barrier to experience of nature cited by school staff was the risk to safety caused by taking children outdoors or off site. This was given as the reason for the need for supervision and high staffing levels for pupils to be able to engage with the natural environment. The interviewee at T School mentioned specifically having a number of pupils with Autistic Spectrum Disorder (ASD) who were prone to running away, and therefore required a high level of supervision. Another teacher identified the problem of moving and handling less mobile students. This issue was presented as a barrier due to stringent health and safety guidelines which prevented manual handling, however the teacher did not consider this to be a legitimate concern. None of the schools surveyed allowed children to play outside unsupervised. This was particularly the case for D School, where the head teacher said that the grounds were not easy to negotiate for pupils who were learning how to use their electric wheelchairs. The interviewee at G School stated that the time and expense of completing risk assessment forms was a significant limitation to the experiences of nature available to pupils at the school.

Environmental centres also identified safety issues relating to both visitors and animals. The interviewee at Kew Gardens described a number of the plants as being 'spiky' or poisonous and therefore posing a threat to children, whilst Trentham Monkey Forest explained that they could not allow children who were making a lot of noise to be in the monkey habitats as this disturbed the monkeys. The interviewee acknowledged that sometimes this meant asking carers to remove disabled children that were shouting or running around. The interviewees at Twycross Zoo and Trentham

Monkey Forest explained that animal welfare policies meant access to assistance dogs was limited. Walls and other barriers limiting views were also acknowledged as being a problem at Twycross Zoo, but were in place due to the need to prevent visitors getting too close to the animals.

### *Overcoming access barriers*

School interviewees were asked to suggest potential solutions to the constraints that were faced. The most common response was the provision of additional resources, particularly funding, but also staff. By contrast, environmental centres did not consider the cost of visiting to be a significant barrier to visitors: only half of the centres mentioned this as an issue and said that they offered concessionary entrance fees for disabled visitors. The Twycross Zoo interviewee was unique in recognising that staffing may be an issue, as the site required a high staff: pupil ratio for visiting SEN groups. They did not however provide any onsite resources for overcoming this problem. The same interviewee mentioned that the cost of transport to the site might prove prohibitive for some school groups. Similarly, the centre did not offer any assistance towards this cost.

When asked what facilities the environmental centre provided to ease accessibility for disabled people, interviewees unanimously firstly identified physical access solutions. Typically these included features such as wheelchair accessibility, free wheelchair loan, disabled toilets, an 'explorer' bus and hand rails. As such it appears that environmental centres primarily considered physical disability when addressing access needs of disabled people. Most of the environmental centres had in fact introduced other sorts of socially-orientated programmes to ease access for disabled people, but often these were not identified by the interviewee at this point in the interview. A number of centres offered communication facilities such as; a hearing loop, interactive signs, an audio trail, a British Sign Language (BSL) trail, and BSL training for staff. Other centres tried to prevent lack of information proving a barrier to visits: Twycross Zoo had advertised in an SEN magazine; and Oxford University Botanic Gardens advertised to SEN schools, inviting teachers to come on specific open evenings to view the site. Kew Gardens and Twycross Zoo both employ staff or volunteers with learning disabilities illustrating an innovative, although unconscious, social approach to facilitating access. Interestingly, neither site identified this employment practice when discussing access, rather brought it up elsewhere in the interview.

### *Contradictory perceptions of access*

This paper has thus far illustrated that there exists a significant difference in perception between schools and environmental centres regarding the opportunities and barriers to access for SEN school pupils. Schools emphasised the educational and developmental benefits of access and the resource-based constraints that curtail access. By contrast, environmental centres argued that the primary benefits are recreational and the barriers predominantly associated with issues of mobility on site. These findings reflect a different approach to the issue of disability on the part of schools and environmental centres.

The school interviewees approach reflects the social model of disability. Disabled children are seen as having agency to learn, to apply their knowledge to act in environmentally beneficial ways and to teach others to do so. As such, disabled

children are constructed as capable, influential and potentially positive contributors to society. The barriers to access similarly are viewed as being socially created, consisting of a lack of funding and lack of staff support and not a direct outcome of the children's impairments. By contrast interviewees at environmental centres saw the children as incapable and dependent with the capacity to benefit from visits solely through having a good time. The majority of environmental centre staff did not recognise the agency of disabled children to learn about the natural environment and to pass on this learning to others. This approach reflects a medical understanding of disability, with the disabled children portrayed as vulnerable and victims. This attitude was further reflected through the emphasis on physical barriers to mobility on site, with little recognition of social barriers such as those emphasised by school staff. As such, the findings echo loudly the work of Tregaskis (2004) and Murray (2004) that environmental and leisure staff tend to approach disability from a medicalised standpoint.

#### *Opportunities for implementing the social model of disability*

These findings have practical implications for the opportunities for access to environmental centres available to SEN school pupils. The findings suggest that environmental centres may currently be providing inappropriate activities for SEN school visits; emphasising recreation and failing to provide adequate educational opportunities. The findings also suggest that there may be a mis-allocation of resources with environmental centres apportioning too many resources to making the physical environment accessible, when SEN school groups may benefit more from lower entrance fees, aid with transport or support staff to assist with group visits. Disability training with environmental centre staff that emphasised the social model of disability and the potential agency of disabled children could result in greater access opportunities for disabled children. Similarly, communication between SEN schools and environmental centres might help to bridge this gap in understanding.

#### *Emergent issues*

Whilst it has been argued that there is a radical difference in the understanding of disability held by environmental centre staff and SEN school interviewees, it is important to recognise that there was some common ground in the understanding of the needs of children and perception of risks. SEN school teachers did recognise features of children's impairments that posed threats to the children's safety while on visits, such as the likelihood of some children with ASD to run away from the group. It was this recognition of the bodily reality of children's impairments that led many of the interviewees to identify the need for high levels of staff on school visits. This finding implies that impairment may impact upon natural environment access for disabled children in complex ways, which warrants further academic exploration.

A further area of concern is that this research has focused exclusively on the opinions of environmental centre and SEN school staff and has not made any attempt to elicit the views of disabled children themselves. This has been intentional and reflective of the fact that pupils' school trips are a product of negotiation between SEN school staff and environmental centre staff and do not involve the opinions of the pupils themselves. However, research concerning the perceptions of environmental centres held by disabled children could add important evidence that might support or contradict the opinions of SEN school teachers.

## Conclusion

This research has supported the findings of Tregaskis (2004) and Murray (2004) that found that leisure service providers used a medical approach to disability that led to limited access to leisure opportunities for disabled young people. This study found that environmental staff adhere to a medical model of disability in providing access opportunities for SEN pupils. As a result, disabled children are denied opportunities for learning in these environments, as access focuses on recreation. Access is further limited by resource constraints experienced by SEN schools that are not recognised by environmental centres. As such, the primary conclusion to be drawn from this research is for the need for the facilitation of discourse between environmental centre managers and schools and for social model training to be provided to environmental centre staff. This discourse and training is necessary to ensure that environmental centres are best able to serve the needs of school groups and allocate resources in the most appropriate manner.

## Acknowledgements

The author is funded by an ESRC studentship.

## References

- Aitchison, C. 2000. Young disabled people, leisure and everyday life: Reviewing conventional definitions for leisure studies. *Annals of Leisure Research* 3: 1–20.
- Ballantyne, R., S. Connell, and J. Fien. 1998. Students as catalysts of environmental change: A framework for researching intergenerational influence through environmental education. *Environmental Education Research* 4, no. 3: 285–98.
- Balmford, A., L. Clegg, T. Coulson, and J. Taylor. 2002. Why conservationists should heed Pokemon. *Science* 295: 2367.
- BBC News. 2008. Young 'not allowed out to play'. *BBC News Online*. [http://news.bbc.co.uk/2/hi/uk\\_news/education/6720231.stm](http://news.bbc.co.uk/2/hi/uk_news/education/6720231.stm).
- Bebbington, A. 2005. The ability of A-level students to name plants. *Journal of Biological Education* 39, no. 2: 62–7.
- Burdette, H.L., and R.C. Whitaker. 2005. Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affiliation, and affect. *Archives of Paediatric and Adolescent Medicine* 159: 46–50.
- Chan, H.S.S., P.H.B. Lau, K.H. Fong, D. Poon, and C.C.C. Lam. 2005. Neuroimpairment, activity limitation, and participation restriction among children with cerebral palsy in Hong Kong. *Hong Kong Medical Journal* 11: 342–50.
- Clark, A.N. 1993. *The Penguin dictionary of geography*. Penguin: London.
- Clements, R. 2004. An investigation of the state of outdoors play. *Contemporary Issues in Early Childhood* 5, no. 1: 68–80.
- Collins, F. 2008. Are children losing touch with the wild world? *BBC Wildlife Magazine* 26, no. 9: 63–8.
- Commission for Rural Communities. 2005. *State of the countryside report 2005*. Cheltenham: Commission for Rural Communities. <http://www.ruralcommunities.gov.uk/publications/crc05stateofthecountryside2005>.
- Contact a Family. 2007. Facts and Figures: About families with disabled children. <http://www.cafamily.org.uk/campaigns/pressoffice/factsandfigures.html>.
- Cuvo, A.J., M.E. May, and T.M. Post. 2001. Effects of living room, snoezelen room, and outdoor activities on stereotypic behaviour and engagement by adults with profound mental retardation. *Research in Development Disability* 22: 183–204.
- Farmer, C. 2005. *Home Office citizenship survey: Top level findings from the children and young people's survey*. London: Home Office and the Department for Education and Skills. [www.dfes.gov.uk/research/data/uploadfiles/RW29.pdf](http://www.dfes.gov.uk/research/data/uploadfiles/RW29.pdf).

- Green, S. 2003. "What do you mean 'what's wrong with her?'" Stigma and the lives of families of children with disabilities. *Social Science and Medicine* 57: 1361-74.
- Hart, R. 1978. Children's exploration of tomorrow's environments. *Ekistics* 45: 387-90.
- Hofferth, S.L., and J.F. Sandberg. 2001. Changes in American children's time, 1981-1997. In *Children at the millennium: Where have we come from, where are we going?*, ed. S.L. Hofferth and T.J. Owens. New York: JAI.
- Kahn, P. 2002. Children's affiliations with nature: Structure, development, and the problems of environmental generational amnesia. In *Children and nature: Psychological, sociocultural and evolutionary investigations*, ed. P. Kahn and S. Kellert, 93-116. London: MIT Press.
- Kaplan, R. 1974. Some psychological benefits of an outdoor challenge programme. *Environment and Behaviour* 6, no. 1: 101-16.
- Kaplan, S. 1995. The restorative benefits of nature: Toward an integrated approach. *Journal of Environmental Psychology* 15: 169-82.
- Kong, L. 2000. Nature's dangers, nature's pleasures: Urban children and the natural world. In *Children's geographies: Living, playing, learning*, ed. S. Holloway and G. Valentine, 257-71. London: Routledge.
- Mackett, R., B. Brown, Y. Gong, K. Kitazawa, and J. Paskins. 2007. Children's independent movement in the local environment. *Built Environment* 33, no. 4: 454-68.
- Mactavish, J.B., and S.J. Schleien. 2004. Re-injecting spontaneity and balance in family life: Parents' perceptions on recreation in families that include children with developmental delay. *Journal of Intellectual Disability Research* 48, no. 2: 123-41.
- McKee, B. 2005. Growing up denatured. *New York Times*, April 28.
- Murray, P. 2004. *Making connections: Developing inclusive leisure in policy and practice*. York: Joseph Rowntree Foundation.
- Oliver, M. 2004. If I had a hammer: The social model in action. In *Disabling barriers - enabling environments*, ed. J. Swain, 7-12. London: Sage.
- Pergams, O., and P.A. Zaradic. 2006. Is love of nature in the US becoming love of electronic media? 16-year downtrend in national park visits explained by watching movies, playing video games, internet use, and oil prices. *Journal of Environmental Management* 80, no. 4: 387-93.
- Playday. 2005. 2005 survey report: Fit for play? Playday 2005. [www.childrenandnature.org](http://www.childrenandnature.org).
- Roberts, D.F., U.G. Foehr, and V. Rideout. 2005. *Generation M: Media in the lives of 8 to 18 year olds*. Menlo Park, CA: Kaiser Family Foundation. [www.kff.org/entmedia/entmedia030905pkg.cfm](http://www.kff.org/entmedia/entmedia030905pkg.cfm).
- Scott, N. 1974. Towards a psychology of wilderness experience. *Natural Resources Journal* 14: 231-7.
- Shafer, E., and J. Mietz. 1969. Aesthetic and emotional experiences rate high with northeast wilderness hikers. *Environment and Behaviour* 1, no. 2: 187-97.
- Shelley, P. 2002. *Everybody here? Play and leisure for disabled children and young people: A Contact a Family survey of families' experience in the UK*. London: Contact a Family.
- Sherer, D.M. 2006. The benefits of parks. Why America needs more city parks and open spaces, the trust for public land. [www.childrenandnature.org](http://www.childrenandnature.org).
- Steine, S. 1997. *Landscapes for learning*. New York: John Wiley and Sons.
- Taylor, A.F., A. Wiley, F.E. Kuo, and W.C. Sullivan. 1998. Growing up in the inner city. *Environment and Behaviour* 30, no. 1: 3-27.
- Taylor, A.F., F.E. Kuo, and W.C. Sullivan. 2001. Coping with ADD: The surprising connection to green play settings. *Environment and Behaviour* 33, no. 1: 54-77.
- Tregaskis, C. 2004. Applying the social model in practice: Some lessons from countryside recreation. *Disability and Society* 19, no. 6: 601-11.
- UNICEF, and UNEP. 1990. *State of the environment report: Children and the environment*. New York: UNICEF.
- Valentine, G., and J. McKendrick. 1997. Children's outdoor play: Exploring parental concerns about children's safety and the changing nature of childhood. *Geoforum* 28, no. 2: 205-20.
- Wridt, P. 2004. An historical analysis of young people's use of public space, parks and playgrounds in New York City. *Children, Youth and Environments* 14, no. 1: 100-20.