

Can greening school grounds in the city make children more concentrated, happy and at ease with nature?

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Introduction

As part of a larger effort to upgrade deprived neighborhoods, several school grounds in the Dutch city of Rotterdam are being redeveloped. In this redevelopment, special attention is paid to the greening of the school ground. Doing so is hypothesized to contribute to the children's emotional well-being, cognitive and social functioning (Malone & Tranter, 2003), as well as to their feeling at home with nature (Bixler et al, 2002). As part of an intervention study, pre-measurements of children's play behavior, cognitive and social functioning, emotional well-being, and attitudes towards nature were collected at five schools. These pre-measurements already offer an opportunity to test the plausibility of some of our hypotheses.

Method

In the autumn of 2010, over 300 children from five schools, mainly from groups 3, 4, and 5 (ages 6, 7, and 8) were individually interviewed. Nearly all children belonged to an ethnic minority. The interview started with some questions about the child's background characteristics, followed by a cognitive test for executive functioning (Digit Span Backwards; Faber Taylor et al, 2009). Next, children were asked a series of closed questions about their mood, evaluation of the school ground, quality of life, and attitude towards nature.

Results and Discussion

Before the redevelopment, all school grounds were relatively barren. Therefore, the data of the pre-measurement could not be used to compare children with "green" vs. "barren" school grounds. Rather we explored relationships between children's evaluation

of the school ground on the one hand and their cognitive functioning and mood after a morning recess on the other. The score on the Digit Span Backwards was positively related to the evaluation of the school ground, independent of age. Also the mood of the children, which was measured after the morning recess, was more positive when they evaluated the school ground more positively. Finally, we looked the frequency with which the child played outdoors and their attitude towards nature, presuming that outdoor play is likely to involve contact with nature. The analysis showed that, independent of gender, children who play outdoors more often, are less afraid of nature and find nature less unpleasant.

The cross-sectional nature of these analyses only allows tentative conclusions regarding causality. However, given the observed relationships the hypothesized effects of greening school grounds seem plausible. Whether or not these effects will actually occur, is likely to depend on the extent to which the greening makes the school ground more attractive and provides more opportunities for contact with nature. This seems especially relevant for children who at present do not like the playground and have little contact with nature.

References

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