



Life with Limited Privacy due to Housing Challenges: Impact on Children's Psychological Functioning

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ABSTRACT

This study investigated the influence of limited living space and privacy on children's psychological functioning. The study invited 240 participants, of which 120 children were in the experimental group and 120 in the comparison group. The participants in the experimental group were recruited from communities facing living space and personal privacy challenges, while the participants in the comparison group came from privileged communities with relatively adequate living space. The children's psychological functioning dimensions measured were anxiety, depression, conduct disorder, addictive and risk behaviours, delay of gratification, sexual risk behaviours, and perceptions of social support. The results showed that the two groups differed significantly in levels of anxiety, depression, conduct disorder, and addictive and risk behaviours. The findings of the study indicate the need to offer psychological support to children facing living space and privacy challenges. Implications for further studies in the area of housing and psychological wellbeing are discussed.

Key words

living space, privacy, psychological functioning

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Introduction

Communities and families that fail to provide adequate living space for the maintenance of children's personal privacy could be violating children's rights to normal human development and that lack of protection is tantamount to violence against children. In terms of the World Health Organization's (WHO) definition of violence against children, violent situations include "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002, p. 5). However, while this definition is useful in recognising that violence does not only have to be physical, it falls short in not recognising that "social inequalities result in slow death by depriving people of basic human need satisfaction" (Christie, 2006, p. 5).

Studies on children from environmentally disadvantaged groups have tended to focus on physical health problems and not primarily on the impact of lack of adequate living space and privacy on children's psychological functioning (Klasen, 1997). This study looked at psychological problems as a result of limited privacy because of inadequate housing. Children in resource poor communities can be exposed to adult material, violence and other undesirable or indecent situations in the home as a way of life due to lack of decent accommodation (Barbarin, Richter, & De Wet, 2001; Horowitz, 2002; Nutter & Kearns, 1993).

It has been argued by researchers on child exposure to adult material that children could develop risk behaviours with respect to sexual violence, sexual attitudes, moral values and sexual behaviour (Greenfield, 2004; Petersen, Bhana, & McKay, 2005). In these dwellings, children and adults could share sleeping space, bed linen, personal belongings and clothes. Some of the adults' sexual practices in the dwellings might ignore the presence of children (Greenfield, 2004; Welles-Nystrom, 2005). In some extreme situations in South Africa and other third world countries, parents could sleep in the same room with their children, including adolescents and young adults (Kaya & Weber, 2003). The link to sexual violence when adults and children sleep on the same bed and share linen and clothes is that most of the cases reported about incest happen among relatives who share living space challenges (Worling, 1995).

Limited Living Space and the Maintenance of Personal Privacy

Environmental psychologists have argued that an individual's personal privacy is closely linked to their psychological functioning. An invasion of an individual or a community's living space could result in psychological distress (Kaya & Erkip, 1999; Margulis, 2003). An individual's personal space is like a territory, and when that territory is violated, the individual experiences psychological distress (Brown, Lawrence, & Robinson, 2005; Childress, 2004). Privacy, according to Pedersen (1979), is represented by the desire to maintain solitude, isolation, anonymity, reserve and intimacy with friends and the family (Kaya & Weber, 2003). In the context of housing and overcrowding in South Africa, some individuals may not be able to maintain personal space and privacy due to limited living space. It should be noted that in as much as individual violation of personal privacy affects the individual's psychological wellbeing, it should also be borne in mind that this lack of privacy could have a cumulative effect on the entire community of which the individual is a member (Masten, Garmezy, Tellegen, Pellegrini, Larkin, & Larsen, 1988).

Limited living space and emotional disorders

It could be contended that people living in environments in which intruders or unwanted visitors might access their privacy in the home without their consent could raise levels of anxiety among the affected individuals. Research has demonstrated that invasion of privacy results in the development of emotional disorders, such as anxiety disorders, mood disorders, stress or depression (Briere & Smiljanick, 1994; Demare, Briere, & Lips, 1988; Friedman & Reed, 2007; Hughes, 2004). Children living in unsecured dwellings could fear mugging, sexual assault, home invasion, or forced sex resulting in HIV infection, sexually transmitted diseases or unwanted pregnancies (Gordon, King, Gullone, Muris, & Ollendick, 2007). The neighbourhood could be suspicious, untrustworthy or frightening such that children's safety concerns could degenerate into mental health challenges for the children and their parents (Howard, Panos, Robert, & Tamsin, 2007). Some of the dwellings may not have secure doors, walls, windows or other security features associated with modern housing.

Violence against children through lack of personal privacy due to limited living space (Krug et al., 2002) could result in abused children turning against other children, thus perpetuating child abuse. Paradoxically, environmental

psychologists have posited that some children who have been victims of crime, child abuse and other violent experiences could turn out to be the perpetrators of violence against minor children in adolescence or adulthood (Cloitre, Tardiff, Marzuk, Leon, & Portera, 2001). This is explained as an internalisation process in which the aggressor's attributes are unconsciously internalised and re-enacted by the victim as "acting out" behaviours, thus continuing the cycle of violence in environmentally disadvantaged communities (Rogers & Davies, 2007). Researchers on emotional disorders as a socially acquired condition have contended that a neurotic society would produce neurotic children who would in turn behave like their elders in adulthood (Barnes & Cheng, 2006; Karreman, Tuijl, Aken, & Dekovic, 2008). In this regard, limited living space could have an emotional impact on children's wellbeing. Social learning theories also support the idea that violent crimes in South Africa, such as stabbing, bullying, community violence, sexual assault, homicide, ritual murder, sodomy, bestiality, armed robbery or child trafficking, could be a manifestation of learnt social behaviours, though some of the children may resist environmental influences (Hudson, 1999; Petersen et al., 2005). In this study it was expected that elements of psychological distress could be experienced by children facing challenges of secure shelter and personal privacy as a human right.

Violation of Personal Space and Conduct Disorder

An individual's personal space is like a sanctuary in which habitation welfare is centred. Environmental psychologists, ethologists and biologists indicate that, even among animals, birds and other living organisms, a violation of living space disturbs psychological functioning and behaviour (Jorgensen & Tylecote, 2007; Silove, 2004). People and other living organisms become mentally, physically and emotionally attached to their living spaces in which individual privacy is maintained (Biswas-Diener & Diener, 2006; Coolen, 2006).

Some researchers and educators have posited that children from informal settlements, resource poor communities, crowded communities, and high density suburbs could exhibit behavioural problems in school and in their immediate community (Brook, Morojele, Pahl, & Brook, 2006; Cluver & Gardener, 2006; Emmerson, 2003). Children could also exhibit conduct disorders, such as drug and alcohol abuse, fights, use of dangerous weapons to attack opponents, promiscuity, HIV and AIDS risk behaviour, impulsive behaviour, inattentive behaviour, disruptive behaviour, leaving home without telling parents, staying out at night, insubordination, or blaming authority

figures for their own shortcomings (Flisher, Evans, Muller, & Lombard, 2004; Rowe, Maughan, Costello, & Angold, 2005; Tripp, Schaughency, & Clark, 2006). Sexual risk behaviours among children living in difficult circumstances could be associated with high forms of sexual suggestibility, sexual tolerance, HIV infection, and failure to detect risk situations that might result in sexual assault or revictimisation (Marx, Calhoun, Wilson, & Meyerson, 2001; Schloredt & Heiman, 2003; Thompson et al., 2003; Wenninger & Heiman, 1998). The interest of this study was to investigate the role played by environmental factors relating to housing in the development of behavioural pathology among children living in communities with limited living space and privacy.

Poverty and Inability to Delay Gratification

There is documented evidence of the relationship between limited living space due to poverty and inability to delay gratification (Bembenutty & Karabenick, 2004; Ray & Najman, 1986; Wulfert, Block, Ana, Rodriguez, & Colman, 2002). The ability to delay immediate gratification is characterised by the ability to plan, postpone immediate rewards in preference of larger future rewards, and delay sensual gratification until psychological and material conditions are met to accomplish the task. Studies seem to have indicated that, to a large extent, children and adults from disadvantaged communities in Africa and abroad tend to show tendencies of failing to delay gratification (Bembenutty & Karabenick, 2004; Phares, 1976; Ray & Najman, 1986; Wulfert et al., 2002). Individuals who are reported as failing to delay immediate gratification usually reside in crowded places, shacks and resource poor rural dwellings that are not well looked after. They usually have communal sanitary facilities that may be inadequate for the households they serve (Dillingham & Guerrant, 2004). The failure by individuals to delay immediate gratification is normally associated with unplanned families, teenage pregnancy, substance abuse, deviance and crime (Tittle, Ward, & Grasmick, 2003; Vazsonyi, Cleveland, & Wiebe, 2006).

Social Support and Psychological Wellbeing of Children

Family social networks and active parental guidance and support could mitigate the effects of a harsh social environment on children's psychological functioning (Broadhead, Kaplan, James, & Wagner, 2005; Cortina et al., 2008; Golding, Wilsnack, & Cooper, 2002). Children who have adequate social support at home and in their communities tend to experience less psychological distress despite

the household's economic status (Levers, Brown, Lambert, Hsu, & Eckman, 1998; Oackley, Hickey, & Rigby, 2004). However, under certain circumstances, there may be a lack of social and psychological support for children in difficult situations as parents and individuals facing living space challenges could be more preoccupied with fulfilling the basic necessities of life, such as food, shelter and safety of the family (Kagee, 2007; Strebel, 2004; Triegaardt, 2005). The parents might not realise or might ignore the dangers posed by lack of decent accommodation to their children. They might also sell or ask their children to sell alcohol, drugs and other commodities in the home. These informal income generating activities run from home could expose children to rapists, paedophiles, exhibitionists, child traffickers and other child abusers who might come to the dwelling under the pretext of being customers. The patrons could access children's rooms, belongings and privacy, and some of the patrons could be careless and behave indecently or use inappropriate language in the presence of children. In such situations, children's psychological and physical health could be affected (Giese, Meintjes, Croke, & Chamberlain, 2003; Mphi, 1994).

Aim of the Study

The study sought to assess the impact of limited living space and privacy on children's psychological wellbeing. Specifically, the study sought to test the following hypotheses:

- 1 Children living in places with limited space and privacy will show more symptoms of anxiety than the comparison group
- 2 Children living in places with limited space and privacy will show more symptoms of depression than the comparison group
- 3 Children living in places with limited space and privacy will show more symptoms of conduct disorder than the comparison group
- 4 Children living in places with limited space and privacy will show more symptoms of addictive and risk behaviours than the comparison group
- 5 Children living in places with limited space and privacy will show more indicators of inability to delay gratification than the comparison group
- 6 Children living in places with limited space and privacy will show more indicators of sexual risk behaviours than the comparison group
- 7 Children living in places with limited space and privacy will show more indicators of lack of social support than the comparison group.

Research Design

An *ex post facto* research design was adopted in this study to assess the psychological functioning of the participants in their environments. The design was relevant to this study in that it sought to assess group differences based on the prevailing environmental conditions affecting the two groups. The experimental group and the comparison group were similar in that the participants were taken from the same age range and school grades.

Demographic and geographical characteristics of the study sample

The areas investigated were situated outside of Johannesburg's central business district. The area from which the experimental group came was reserved for Africans during the Apartheid era. The residents were mainly migrant labourers from the then homelands who worked in the manufacturing industries, on the mines and in other non-skilled jobs. The housing in this area is made up of shacks and small houses that were meant to accommodate workers without families. The Department of Housing during the Apartheid era might not have envisioned a larger family unit in need of spacious living space among the previously disadvantaged groups. As a way of creating living space for growing families and their extended kinship, some households in this area are reported by the municipal authority to have defied municipal bylaws by illegally extending their housing units and connecting water and electricity without municipal approval. This has resulted in more family members living in the same dwelling and congestion of sanitation facilities (UN-Habitat, 2005). The living environment could be described as overcrowded and it tends to attract low-income earners and unemployed people. Furthermore, the informal structures in which the majority of the children in this study lived were not legally sanctioned by municipal bylaws as fit for human habitation (UN-Habitat, 2005). The roads in this area were narrow and dirty and children sometimes played in dirty streets filled with effluent (Bond, 2000). It was observed in this study through a transact walk in the area that social amenities like clinics, hospitals, schools, shops, environmental sanitation facilities, drinking water facilities, and other social amenities were in many places in a state of disrepair. Street lighting, robots and other security facilities in this area were not as well serviced as compared to the upmarket areas of Johannesburg (Bond, 2000; Williams, 2000). This area was chosen as an ideal place for investigating the influence of adverse environmental living conditions on children's psychological functioning. In contrast, the comparison group's area was well developed with

social amenities in good condition. The living space was spacious and the area was protected by private security companies.

Participants

The participants were ($n = 240$) children drawn from 10 schools outside of the central business district of Johannesburg. The experimental group of ($n = 120$) children were drawn from six schools and the comparison group of ($n = 120$) children were drawn from four schools. The study invited boys and girls to participate in the study, but did not capture the total number of boys and girls to assess the influence of gender as a separate variable in psychological functioning. The initial response of the participants in both groups was more than 120 participants. However, the study only considered 120 participants from each group who managed to complete all the questionnaires.

The children in the experimental group lived in places that had limited living space and privacy. Their dwellings were mainly small houses, shacks, outbuildings, and one-room type accommodation shared by the father, mother, children and relatives in some cases. Some of the households were headed by grandmothers, while others were headed by children whose parents were deceased, in hospital, or in prison. The teacher-pupil ratio in schools for the previously disadvantaged groups was large and classrooms were crowded, whereas the environment of the comparison group was spacious and more conducive to learning. The ages of the participants for both groups ranged from 13 to 17 years.

Procedure

The researchers obtained permission from the 10 schools that participated in the study. The schools had a training contract with the non-governmental organisation that partnered with the researchers to conduct the study. The training and research programmes of the partner organisation were authorised by the Gauteng Department of Education. The study was advertised by Life Orientation (LO) teachers in schools. The researchers and LO teachers invited learners who were interested in the study to participate. Dates and venues of the study were put on notice boards and LO teachers acted in *loco parentis* for the children's informed consent and informed participation. The study was part of an ongoing life skills training programme in schools. The learners, in

consultation with their teachers and parents, were given at least one week to decide whether or not to participate in the study. The teachers organised the venues and the researchers administered the questionnaires to the children.

Measures

The Revised Children's Manifest Anxiety Scale (RCMAS)

This 37-item questionnaire was used to assess anxiety in participants. The instrument was developed by Reynolds and Richmond in 1978. In this study the instrument had a reliability of .90 (Cronbach alpha). It was found to be suitable for the purpose of this study, but its reliability on the South African Psychometric Committee (SAPC) was not established as the purpose for using this test was academic and not commercial.

Depression Scale for Children (CES-DC)

This 20-item questionnaire was developed to measure depression in children (Faulstich, Carey, Ruggiero, Enyart, & Gresham, 1986). The instrument had a reliability of .92 (Cronbach alpha) and was found to be suitable for the purpose of this study. The evaluation and classification report on its reliability by the SAPC was not established as the test was solely used for study purposes.

The Parent-Teacher DBD Rating Scale

This 22-item instrument was used to assess conduct disorder in children (Tripp et al., 2006). It was administered as a self-report measure in this study. The measure assessed disruptive behaviour in school and at home. The reliability of the instrument was .90 (Cronbach alpha) and was found to be suitable for assessing conduct disorder. The evaluation and classification report by the SAPC was not established as the instrument was used for research purposes only.

Adolescent Addictive and Risk Behaviour Scale

This 20-item measure was used to assess addictive and risk behaviours of the participants. This instrument was developed in South Africa and it is also widely used in the assessment of psychopathology in children and adolescents (Flisher et al., 2004). It had a reliability of .90 (Cronbach alpha).

Academic Delay of Gratification Scale

This scale was used to assess the ability of children to delay immediate gratification for future rewards (Bembenutty & Karabenick, 1998). The reliability of the instrument was .89 (Cronbach alpha). The evaluation and classification of the test by the SAPC was not established as the test was used for research purposes only.

Sex Risk Behaviour Scale

This instrument was developed in South Africa and is used to assess sexual risk behaviours among participants (Mahomed, 2004). The instrument is widely used in South Africa. The reliability of the instrument for this study was .72 (Cronbach alpha).

Social Support Questionnaire

This measure was used to assess children's perceptions about their family and social support networks. The instrument assessed the mediating role of social support in mitigating the effects of adverse environmental factors on psychological functioning. The instrument was designed in South Africa and was found to be suitable for the purpose of this study (Gigliotti, 2006; Mahomed, 2004). The reliability of the instrument was .98 (Cronbach alpha).

Data Analysis

This study used *t*-tests for independent samples to determine the statistical significance of the difference in means between the experimental group and the comparison group. The *t*-test was used to compare the psychological functioning of the two groups. The SAS program was run to analyse the data.

Results

In terms of group difference with respect to psychological functioning, the experimental group had unhealthy mean scores on measures of anxiety, depression, conduct disorder and addictive and risk behaviours as compared to the comparison group. However, the groups did not differ significantly in psychological functioning with regard to willingness to delay gratification, sexual risk behaviours and social support as represented in Table 1 below.

Table 1
Scores and comparisons of mental functioning

Variable	Experimental Group	Comparison Group	<i>t</i> -value	<i>p</i> -value
	Mean (SD)	Mean (SD)		
Anxiety	17.00 (6.08)	6.63 (2.86)	16.92	.01*
Depression	29.40 (8.18)	7.98 (3.71)	26.14	.01*
Conduct disorder	37.24 (10.29)	9.75 (7.93)	23.18	.01*
Addictive and risk behaviour	32.22 (9.73)	8.10 (5.59)	23.55	.01*
Willingness to delay gratification	2.18 (1.92)	2.12 (1.87)	.24	NS
Sexual risk behaviour	1.26 (1.97)	1.15 (1.37)	.31	NS
Social support	47.84 (9.83)	49.56 (11.89)	.11	NS

* $p < .01$

The means of the experimental group and the comparison group differed significantly on measures of anxiety [$t(238) = 16.92, p < .01$], depression [$t(238) = 26.14, p < .01$], conduct disorder, [$t(238) = 23.18, p < .01$], and addictive and risk behaviours [$t(238) = 23.55, p < .01$].

The difference between the mean test scores of the experimental group and the comparison group was not statistically significant on delay of gratification [$t(238) = 0.24, p = \text{NS}$], sexual risk behaviours [$t(238) = 0.31, p = \text{NS}$], and social support ($t(238) = 0.11, p = \text{NS}$).

Discussion

The hypotheses that limited living space and privacy can impact negatively on children's psychological functioning with respect to anxiety, depression and conduct disorder were confirmed by the self-report responses of the participants in this study. The psychological effect of limited living space and



lack of privacy could be associated with the effect of violence against children in general (Barbarin et al., 2001; Greenfield, 2004; Gordon et al., 2007; Horowitz, 2002; Hughes, 2004; Jorgensen & Tylecote, 2007; Nutter & Kearns, 1993). In this study, participants reported higher levels of anxiety, depression, conduct disorder, and addictive and risk behaviours. These findings could provide a basis for the argument that limited privacy and lack of adequate shelter can have the same psychological effects as any other forms of violence against children (Krug et al., 2002). However, the children in this study did not report any differences in delay of gratification skills, sexual risk behaviour, and perceptions of family and community social support. Both groups had healthy scores on these three dimensions of psychological functioning.

The reported symptoms of anxiety among the children in the experimental group could have emanated from the fears of living in areas that are not adequately secure in terms of physical structures and police presence (Howard et al., 2007). Children could be mugged because of lack of adequate street lights. Most of the dwellings were not fortified enough to protect inhabitants from intruders. The children could have been living with relatives whom they might not have trusted, but due to lack of living space they had to live with them and thus forfeit their privacy and share living space (Barbarin, Richter, De Wet, & Wachtel, 1998; Childress, 2004; Jewkes & Abrahams, 2002). In environmentally disadvantaged places, like the one in this study, it is usually reported that incidences of community violence, sexual assault, carjacking and other nefarious activities are common (Friedman & Reed, 2007; Gordon et al., 2007; Rudenberg, Jansen, & Fridjhon, 2001). Anxiety is common among individuals who live in an environment with unpredictable levels of violation of personal space (Bremner, 2004; Durlington, 2006; Walker, 2006).

Depression is associated with the presence of uncontrollable life events in an individual's life, such as living in places without privacy (Brown et al., 2005; Kaya & Erkip, 1999; Margulis, 2003; Tomlinson, Cooper, & Murray, 2005; Salcioglu, Basoglu, & Livanou, 2008). In the context of housing and psychological health, renting decent accommodation, building a decent house or buying a spacious house is determined by the income levels of families and in that regard children from poor families may live with the problems of lack of shelter and privacy until they grow up and leave the family dwelling. This perceived lack of material resources to change an individual's lifestyle could result in the development of depressive symptomology among children facing living space and privacy challenges. In such places, if child abuse of any nature



is being perpetrated by a relative or parent in the dwelling, the child may be unable to disclose the abuse due to kinship relationships, self-blame or being ashamed to show outsiders where they live (Berer, 2007; Childress, 2004; Howard et al., 2007; Jewkes, Penn-Kekana, & Rose-Junius, 2005; Stone, 2004; Strebel et al., 2006).

The reported indications of conduct disorder among the participants in the experimental group confirmed previous studies that presented limited living space and privacy as contributory factors to the development of conduct disorder among children (Brook et al., 2006; Biswas-Diener & Diener, 2006; Cluver & Gardener, 2006; Coolen, 2006; Emmerson, 2003; Jorgensen & Tylecote, 2007; Rowe et al., 2005; Silove, 2004). The children in this study could have been showing the same conduct disorders at home, in society and at school as was evidenced by the majority of their self-reported responses on the measure of conduct disorder. This reported maladaptive behaviour could be a learned response in which children act out what happens in their present life (Brewin, 2001; Dodge, 1993; Tremblay, 2000; Vazsonyi et al., 2006; Vitiello & Stoff, 1997). Some of the behaviours that might be tolerated as normal in a resource poor community or crowded environment may not be treated as normal behaviour in school. Some of the common behaviours in informal dwellings and one-room type of accommodation, such as having sexual relations in the presence of children under the pretext that the children have fallen asleep, or that they might not know what is happening, might result in children learning such behaviours unconsciously through the process of subliminal learning (Herpertz, 2003; Newson, 1994; Swadi, 2000). Some of the undesirable practices in the home could include parents or adults dressing in the presence of children, or bathing with the children. Communal bathing facilities in which children and adults bath together are common in crowded places with limited sanitary facilities. Some adults, for example, siblings, relatives or neighbours, may negligently expose children to adult material (Briere & Smiljanick, 1994; Demare, Briere, & Lips, 1988; Mitchell, Finkelhor, & Wolak, 2003; Petersen et al., 2005). Children in such environments could experience the sharing of limited family facilities and personal belongings with adults, sometimes without their consent, and resistance could be treated as insolence or lack of respect for adults (Childress, 2004; Claveirole, 2004; Kaya & Erkip, 1999; Margulis, 2003).

Addictive and risk behaviours were found to be significant among the experimental group. This could be consistent with previous studies which found

an association between lack of adequate accommodation and substance abuse (Brook et al., 2006; Saah, 2005; Stewart, 2007; Tittle et al., 2003; Vazsonyi et al., 2006). The children's responses showed addictive and risk behaviours, such as smoking cigarettes and prohibited drugs, inhaling intoxicating gases, drinking alcoholic substances, taking deliberate action to cause harm to individuals and property, carrying weapons to school, bullying, and other risk behaviours that endangered the children's health and that of others. The reported psychological wellbeing of children in this study could also reflect the general mental and behavioural pattern of low-income groups living in informal settlements in South Africa (Barbarin et al., 2001; Carrim, 1999; Chandola, Head, & Bartley, 2004; Kagee, 2007; Mager, 2004; Wiltshire, Bancroft, Parry, & Amos, 2003).

Limitations of the Study

The findings of this study may be inadequate to provide a true picture of the prevalence of children's problems in the context of urban housing in South Africa. The research design was not strict enough to control the influence of extraneous factors which could have resulted in somewhat skewed results. In view of the findings of this study, it cannot be ruled out that the same problems that affected children from environmentally disadvantaged backgrounds also affect children from privileged groups. The incidents might not be as prevalent as they are among groups without proper living conditions. Even though the environmental influence had a significant impact on children's mental health in respect to anxiety, depression, conduct disorder, and addictive and risk behaviours, the results may have been distorted by the small sample size.

However, it could also be pointed out that factors, such as children's desire to provide socially acceptable answers and the need to avoid discussing socially sensitive issues with adults who could have been viewed as representing the role of parents, could have influenced the self-reported responses that the learners provided in this study. The children in both the experimental group and the comparison group reported high levels of personal integrity with regard to delay of gratification, sexual risk behaviours, and social support. The children might also have wanted to please their LO teachers by providing socially desirable answers.

Recommendations

Based on the findings of this study it is recommended that:

- 1 Behaviour change interventions in environmentally disadvantaged communities should focus on children's housing conditions as part and parcel of other interventions, such as health, education and social welfare support systems.
- 2 Housing developers and community development organisations should, of necessity, incorporate the development and provision of decent housing for communities as a psychological health risk reduction intervention for children. It is therefore advised that communities, educational institutions and social service departments should mobilise their resources, engage government and municipal councils and litigate for children's psychological health.
- 3 Legislators could also empower social workers by including a clause in legislation that protects children in South Africa to make it a liable offence for parents, schools, municipalities and social welfare departments to ignore, fail to report unacceptable living conditions for children or do something positive about the housing conditions of children in their areas of jurisdiction.

Conclusion

The findings of this study linked environmental factors to the psychological functioning of children. It was found that limited living space could affect a child's mental health functioning in the school environment and in the community. More resources are needed to improve the housing conditions of children in this area. The study could stimulate further research endeavour in the area of housing and psychological health in South Africa and abroad.

References

- Barbarin, O.A, Richter, de Wet, L., & Wachtel, A. (1998). Ironic trends in the transition to peace: Criminal violence supplants political violence in terrorising South African blacks. *Peace and Conflict: Journal of Peace Psychology, 4*, 283–305.
- Barbarin, O.A, Richter, & de Wet, L. (2001). Exposure to violence, coping resources, and psychological adjustment of South African children. *American Journal of Orthopsychiatry, 71*, 16–25.
- Barnes, J., & Cheng, H. (2006). Do parental neighbourhood perceptions contribute to child behaviour problems: A study of disadvantaged children. *Vulnerable Children and Youth Studies, 1*, 2–14.
- Bembenutty, H., & Karabenick, S. A. (1998). Academic delay of gratification. *Learning and Individual Differences, 10*, 329–346.
- Berer, M. (2007). Roundtable male circumcision for HIV prevention: Perspectives on gender and sexuality. *Reproductive Health Matters, 15*, 45–48.
- Biswas-Diener, R., & Diener, E. (2006). The subjective wellbeing of the homeless and lessons for happiness. *Social Indicators Research, 76*, 185–205.
- Bond, P. (2000). *Cities of gold, townships of coal: Essays on South Africa's new urban crisis*. Johannesburg: Africa World Press.
- Bremner, L. (2004). Bounded spaces: Demographic anxieties in post-apartheid Johannesburg. *Social Identities, 10*, 455–468.
- Brewin, C.R. (2001). A cognitive neuroscience account of posttraumatic stress disorder and its treatment. *Behaviour Research and Therapy, 39*, 373–393.
- Briere, J., & Smiljanick, K. (1994). Sexual fantasies, gender, and molestation history. *Child Abuse and Neglect, 18*, 131–137.
- Broadhead, W.E., Kaplan, B.H., James, S.A., & Wagner, E.H. (2005). The epidemiologic evidence for a relationship between social support and health. *American Journal of Epidemiology, 117*, 521–537.
- Brook, J.S., Morojele, N.K., Pahl, K., & Brook, D.W. (2006). Predictors of drug use among South African adolescents. *Journal of Adolescent Health, 38*, 26–34.
- Brown, G., Lawrence, T.B., & Robinson, S.L. (2005). Territoriality in organisations. *The Academy of Management Review, 30*, 577–594.
- Carrim, N. (1999). School effectiveness in South Africa. *Journal of Qualitative Studies in Education, 12*, 59–83.
- Chandola, T., Head, J., & Bartley, M. (2004). Socio-demographic predictors of quitting smoking: How important are household factors? *Addiction, 99*, 770–777.
- Childress, H. (2004). Teenagers, territory, and the appropriation of space. *Childhood, 11*, 195–205.
- Christie, D.J. (2006). What is peace psychology the psychology of? *Journal of Social Issues, 62* (1) 1–17.
- Claveirole, A. (2004). Listening to young voices: Challenges of research with adolescent mental health service users. *Journal of Psychiatric and Mental Health Nursing, 11*, 253–260.
- Cluver, L., & Gardener, F. (2006). The psychological wellbeing of children orphaned by AIDS in Cape Town, South Africa. *Annals of General Psychiatry, 5*, 8.

- Cloitre, M., Tardiff, K., Marzuk, P.M., Leon, A.C., & Portera, L. (2001). Consequences of childhood abuse among male psychiatric inpatients: Dual roles as victims and perpetrators. *Journal of Traumatic Stress, 14*, 47–62.
- Coolen, H. (2006). The meaning of dwellings: An ecological perspective. *Housing Theory and Society, 23*, 185–201.
- Cortina, M.A., Kahn, K., Fazel, M., Hlungwani, T., Tollman, S., Bhana, A., et al. (2008). School based interventions can play a critical role in enhancing children's development and health in the developing world. *Child: Care, Health, and Development, 34*, 1–3.
- Demare, D., Briere, J., & Lips, H.M. (1988). Violent pornography and self-reported likelihood of sexual aggression. *Journal of Personality Research, 22*, 140–153.
- Dillingham, R., & Guerrant, R. (2004). Child stunting: Measuring and stemming the staggering costs of inadequate water and sanitation. *The Lancet, 363*, 94–95.
- Dodge, K.A. (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology, 44*, 559–584.
- Durington, M. (2006). Race, space, and place in suburban Durban: An ethnographic assessment of gated community environments and residents. *Geojournal, 66*, 147–160.
- Emmerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability, 47*, 51–58.
- Faulstich, M.E., Carey, M.P., Ruggiero, L., Enyart, P., & Gresham, F. (1986). Assessment of depression in childhood and adolescence: An evaluation of the Centre for Epidemiological Studies Depression Scale (CES-DC). *American Journal of Psychiatry, 14*, 1024–1027.
- Flisher, A.J., Evans, J., Muller, M., & Lombard, C. (2004). Brief report: Test-retest reliability of self-reported adolescent risk behaviour. *Journal of Adolescence, 27*, 207–212.
- Friedman, B.A., & Reed, L.J. (2007). Workplace privacy: Employee relations, and legal implications of monitoring employee email use. *Employee Responsibilities and Rights, 19*, 75–83.
- Giese, S., Meintjes, H., Croke, R., & Chamberlain, R. (2003). *Health and social services to address the needs of orphans and other vulnerable children in the context of HIV/AIDS*. Cape Town: Children's Institute, University of Cape Town.
- Gigliotti, E. (2006). A confirmatory factor analysis of situation-specific Norbeck social support questionnaire items. *Nursing Research, 55*, 217–222.
- Golding, J.M., Wilsnack, S.C., & Cooper, M.L. (2002). Sexual assault history and social support: Six general population studies. *Journal of Traumatic Stress, 15*, 187–197.
- Gordon, J., King, N., Gullone, E., Muris, P., & Ollendick, T.H. (2007). Night time fears of children and adolescents: Frequency, content, severity, harm, expectations, disclosure, and coping behaviours. *Behaviour Research Therapy, 45*, 2464–2472.
- Greenfield, P.M. (2004). Inadvertent exposure to pornography on the internet: Implications of peer-to-peer file sharing. *Journal of Applied Developmental Psychology, 25*, 741–750.
- Herpertz, S.C. (2003). Emotional processing in personality disorder. *Current Psychiatry Reports, 5*, 23–27.
- Horowitz, R. (2002). Legal rights of children. *Child and Adolescent Psychiatric Clinics of North America, 11*, 705–717.
- Howard, M., Panos, V., Robert, G., & Tamsin, F. (2007). Children's perception of neighbourhood trustworthiness and safety and their mental health. *Journal of Child Psychology, and Psychiatry, 48*, 1208–1213.
- Hudson, R.A. (1999). The sociology and psychology of terrorism: Who becomes a terrorist and why? *American Journal of Sociology, 94*, 53–78.



- Hughes, M. (2004). Privacy in aged care. *Australasian Journal of Ageing*, *23*, 110–114.
- Jewkes, R., & Abrahams, N. (2002). The epidemiology of rape and sexual coercion in South Africa: An overview. *Social Science and Medicine*, *55*, 1231–1244.
- Jewkes, R., Penn-Kekana, L., & Rose-Junius, H. (2005). “If they rape me I can’t blame them”. Reflections on gender in the social context of child rape in South Africa and Namibia. *Social Science and Medicine*, *61*, 1809–1820.
- Jorgensen, A., & Tylecote, M. (2007). Ambivalent landscapes: Wilderness in the urban interstices. *Landscape Research*, *32*, 443–462.
- Kagee, A. (2007). Treatment adherence among primary care patients in a historically disadvantaged community in South Africa. *Journal of Health Psychology*, *12*, 444–460.
- Kaya, N., & Erkip, F. (1999). Invasion of personal space under the condition of short-term crowding: A case study of an automatic teller machine. *Journal of Environmental Psychology*, *19*, 183–189.
- Kaya, N., & Weber, M. (2003). Cross-cultural differences in the perception of crowding and privacy regulation: American and Turkish students. *Journal of Environmental Psychology*, *23*, 301–309.
- Karreman, A., Tuijl, C.V., Aken, M.A.G.V., & Dekovic, M. (2008). The relationship between parental personality and observed parenting: The moderating role of preschoolers’ effortful control. *Personality and Individual Differences*, *44*, 723–734.
- Klasen, S. (1997). Poverty, inequality and deprivation in South Africa: An analysis of the 1993 SALDRU survey. *Social Indicators Research*, *41*, 51–94.
- Krug, E., Dahlberg, L.L., Mercy, J.A., Zwi, A.B., & Lozano, R. (Eds.). (2002). *World report on violence and health*. Geneva: World Health Organization.
- Levers, C.E., Brown, R.T., Lambert, R.G., Hsu, L., & Eckman, J.R. (1998). Family functioning and social support in the adaptation of caregivers of children with sickle cell syndromes. *Journal of Paediatric Psychology*, *23*, 377–388.
- Mager, A. (2004). White liquor hits black livers: Meanings of excessive liquor consumption in South Africa in the second half of the twentieth century. *Social Science and Medicine*, *59*, 735–751.
- Mahomed, S.B.N. (2004). *An investigation of certain demographic, interpersonal, and intrapersonal variables and stress response in a sample of black South African Zulu-speaking females diagnosed with cancer of the cervix*. Unpublished PhD thesis, University of KwaZulu-Natal.
- Margulis, S.T. (2003). Privacy as a social issue and behavioural concept. *Journal of Social Issues*, *59*, 243–261.
- Marx, B.P., Calhoun, K.S., Wilson, A.E., & Meyerson, L.A. (2001). Sexual revictimization prevention: An outcome evaluation. *Journal of Consulting and Clinical Psychology*, *69*, 25–32.
- Masten, A.S., Garmezy, N., Tellegen, A., Pellegrini, D.S., Larkin, K., & Larsen, A. (1988). Competence and stress in school children: The moderating effects of individual and family qualities. *The Journal of Child Psychology and Psychiatry*, *29*, 745–764.
- Mitchell, K.J., Finkelhor, D., & Wolak, J. (2003). The exposure of youth to unwanted sexual material on the internet. *Youth and Society*, *34*, 330–358.
- Mphi, M. (1994). Female alcoholism in Lesotho. *Addiction*, *89*, 945–949.
- Newson, E. (1994). Video violence and the protection of children. *Journal of Mental Health*, *3*, 221–227.



- Nutter, D.E., & Kearns, M.E. (1993). Patterns of exposure to sexually explicit material among sex offenders, child molesters and controls. *Journal of Sex and Marital Therapy, 19*, 77–85.
- Oackley, A., Hickey, D., & Rigby, A.S. (2004). Love or money? Social support, class inequality and health of women and children. *The European Journal of Public Health, 4*, 265–273.
- Pederson, D.M. (1979). Dimensions of privacy. *Perceptual and Motor Skills, 55*, 57–58.
- Petersen, I., Bhana, A., & Mckay, M. (2005). Sexual violence and youth in South Africa: The need for community-based prevention interventions. *Child Abuse and Neglect, 29*, 1233–1248.
- Phares, E.J. (1976). *Locus of control in personality*. Morristown: General Learning Press.
- Ray, J.J., & Najman, J.M. (1986). The generalisability of the deferment of gratification. *Journal of Social Psychology, 126*, 117–119.
- Reynolds, C.R., & Richmond, B.O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Psychology, 6*, 271–280.
- Rogers, P., & Davies, M. (2007). Perceptions of victims and perpetrators in a depicted child sexual abuse case: Gender and age factors. *Journal of Interpersonal Violence, 22*, 566–584.
- Rowe, R., Maughan, B., Costello, E.J., & Angold, A. (2005). Defining oppositional defiant behaviour. *Journal of Psychology and Psychiatry, 46*, 1309–1316.
- Rudenberg, S.L., Jansen, P., & Fridjhon, P. (2001). Living and coping with ongoing violence: A cross-national analysis of children's drawings using structured rating indices. *Childhood, 8*, 31–55.
- Saah, T. (2005). The evolutionary origins and significance of drug addiction. *Harm Reduction Journal, 2*, 8.
- Salcioglu, E., Basoglu, M., & Livanou, M. (2008). Psychosocial determinants of relocation in survivors of the 1999 earthquake in Turkey. *Journal of Nervous and Mental Disease, 196*, 55–61.
- Schloretdt, K.A., & Heiman, J.R. (2003). Perceptions of sexuality as related to sexual functioning and sexual risk in women with different types of childhood abuse histories. *Journal of Traumatic Stress, 16*, 275–284.
- Silove, D. (2004). Challenges facing mental health programmes for post-conflict and refugee communities. *Prehospital and Disaster Medicine, 19*, 90–96.
- Stewart, E.C. (2007). The sexual health and behaviour of male prisoners. The need for research. *Howard Journal of Criminal Justice, 46*, 43–59.
- Stone, R.D. (2004). The politics of inclusion: Circle unbroken. *Journal of Feminist Therapy, 16*, 71–89.
- Strebel, A. (2004). *The development, implementation, and evaluation of interventions for the care of orphans and vulnerable children in Botswana, South Africa, and Zimbabwe*. Pretoria: Human Sciences Research Council.
- Strebel, A., Crawford, M., Shefer, T., Cloete, A., Henda, N., Kaufman, M., et al. (2006). Social constructions of gender roles, gender-based violence, and HIV/AIDS in two communities in Western Cape, South Africa. *Journal of Social Aspects of HIV/AIDS, 3*, 516–528.
- Swadi, H. (2000). Substance misuse in adolescents. *Advances in Psychiatric Treatment, 6*, 200–210.
- Tittle, C.R., Ward, D.A., & Grasmick, H.G. (2003). Self-control and crime: Cognitive versus behavioural measures. *Journal of Quantitative Criminology, 19*, 333–365.
- Tomlinson, M., Cooper, P., & Murray, (2005). The mother-infant relationship and infant attachment in a South African peri-urban settlement. *Child Development, 76*, 1044–1054.



- Thompson, K.M., Crosby, R.D., Wonderlich, S.A., Mitchell, J.E., Redlin, J., Demuth, G. et al. (2003). Psychopathology and sexual trauma in childhood and adulthood. *Journal of Traumatic Stress, 16*, 35–38.
- Tremblay, R.E. (2000). The development of aggressive behaviour during childhood: What have we learnt in the past century. *International Journal of Behavioural Development, 24*, 129–141.
- Triegaardt, J.D. (2005). The child support grant in South Africa: A social policy for poverty alleviation. *Social Welfare, 14*, 249–255.
- Tripp, G., Schaughency, E.A., & Clarke, B. (2006). Parent and teacher rating scales in the evaluation of attention-deficit hyperactivity disorder: Contribution to diagnosis, and differential diagnosis in clinically referred children. *Journal of Developmental and Behavioural Pediatrics, 27*, 209–218.
- UN-Habitat. (2005). *Report of the fact-finding mission to Zimbabwe to assess the scope and impact of Operation Murambatsvina*. Geneva: UN-Habitat, Special Envoy on Human settlement issues in Zimbabwe.
- Vazsonyi, A.T., Cleveland, H.H., & Wiebe, R.P. (2006). Does the effect of impulsivity and delinquency vary by level of neighbourhood disadvantage. *Criminal Justice and Behaviour, 33*, 511–541.
- Vitiello, B., & Stoff, D.M. (1997). Subtypes of aggression and their relevance to child psychiatry. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 307–315.
- Walker, S.C. (2006). Trauma in South Africa: Psycho-analytic psychotherapy in South Africa. *Psychoanalytic Quarterly, 75*, 657–684.
- Welles-Nystrom, B. (2005). Co-sleeping as a window into Swedish culture: Considerations of gender and healthcare. *Scandinavian Journal of Caring Sciences, 19*, 354–360.
- Williams, J.J. (2000). South Africa urban transformation. *Cities, 17*, 167–183.
- Wiltshire, S., Bancroft, A., Parry, O., & Amos, A. (2003). “I came back here and started smoking again”: Perceptions and experiences of quitting among disadvantaged smokers. *Health Education Research, 18*, 292–303.
- Weninger, K., & Heiman, J.R. (1998). Relating body image to psychological and sexual functioning in child sexual abuse survivors. *Journal of Traumatic Stress, 11*, 543–562.
- Worling, J.R. (1995). Adolescent sibling-incest offenders: Differences in family and individual functioning when compared to adolescent nonsibling sex offenders. *Child Abuse and Neglect, 19*, 633–643.
- Wulfert, E., Block, J.A., Ana, E.S., Rodriguez, M.L., & Colman, M. (2002). Delay of gratification: Impulsive choices and problem behaviours in early and late adolescents. *Journal of Personality, 70*, 533–551.

