

The Difference between Adolescent Users and Non-Users of Addictive Substances in a Low Socio-Economic Status Community: Contextual Factors Explored from the Perspective of Subjective Wellbeing

Maria Florence (University of the Western Cape)

Elize Koch (University of the Western Cape)

Abstract This research aimed to explore the differences between adolescents from a low socio-economic Cape Town community who use addictive substances and those who do not, with regard to subjective wellbeing. The Kidscreen52 was used to measure subjective wellbeing in a sample of 179 Grade 10 and 11 learners; 41.3% of the sample was male. Thirty-five percent of the adolescents reported to be substance users, with significantly more males reporting substance use than females in both grades. Scores on four of the sub-scales were significantly different for the substance users and non-users (namely Feelings, General mood, Family and home life, School and learning). A post hoc analysis indicated that males and females differed significantly on General mood, but that this difference did not interact with substance use.

Keywords adolescence; Cape Metropole; eco-systems; low socio-economic status; subjective wellbeing; substance use

The overall purpose of the study is to explore the differences between drug-using and non-using adolescents who reside in the same low socio-economic Cape Metropolitan community, with regard to subjective wellbeing. One of the Cape Flats communities¹ where substance abuse is regarded as a major problem by the community members themselves was selected for inclusion in the study, consisting largely of “coloured” residents with the majority being unemployed and living in poverty. The community also experiences high levels of criminal activity, gangsterism, trading in illicit substances and use of these substances as can be seen from South African Police Service reports from 2003 to 2009. More than 1700 drug related crimes were reported in this area in 2009 only. In line with the Gateway Theory the focus of this study is on the use of legal and illegal, addictive substances, including “soft” drugs such as alcohol and cannabis, but excluding substances such as coffee and cigarette smoking. The Gateway Theory proposes that substance use in adolescence often progresses from substances that are easily accessible and

¹ The name of the community is not mentioned in this article for reasons of confidentiality; as a result a reference for the statements below is not provided. Interviews with members of the community by the research team support claims of problematic use of substances in the community.

affordable (for example alcohol), to other more dangerous and addictive substances as the opportunity arises in middle and late adolescence (Greydanus & Patel, 2005).

Local and international studies (for example Brook, Morojele, Pahl & Brook, 2006; Parry, Morojele, Saban & Flisher, 2004) indicated that there are factors in a child's context that influence his/her development, which in turn impacts on behaviour, including substance use and abuse. This study takes these findings further in that we are interested in why some adolescents in these contexts use substances and others do not, despite the fact that they have been exposed to the same environmental influences, from the perspective of subjective wellbeing regarding factors in their surroundings as well as personal factors. A bio-ecological systems theory was therefore used to guide this study.

The Bio-Ecological Systems Theory

The bio-ecological systems theory as developed by Urie Bronfenbrenner in 1978 (Bronfenbrenner, 2005) argues that a child's biological and psychological disposition, and environmental factors come together to shape his/her development. The child is nested in an environment that is made up of concentric circles of influence, with the child as the smallest circle in the centre (Boemmel & Briscoe, 2001). The theory proposes five such systems, namely the micro-, meso-, exo-, macro- and chronosystems.

The microsystem includes those in close relationship to the child for a substantial amount of time, such as parents who make up the child's initial and most intimate learning setting, which then becomes his/her reference point. The mesosystem involves the connections between the child's immediate settings and surroundings like home, school/child-care facilities and the neighbourhood (Boemmel & Briscoe, 2001). The exosystem refers to the social settings that affect the child, but do not include him/her, such as the parents' workplace or health services in the community (Boemmel & Briscoe, 2001). The macrosystem includes the larger systems of cultural and societal beliefs/norms/customs, political trends, laws and community practices (Boemmel & Briscoe, 2001). The chronosystem includes the issue of time and timing. It refers to the historical context as it occurs within the different systems and the changes that take place throughout the child's development.

A child's biology and environment interact to affect his/her development. These interactions become more complex as the child matures into adolescence. In low socio-economic status communities, such as the one being studied, parents are either unemployed or else employed in low-paying jobs that demand long working hours. For those who are employed, work commitments may force family life to take a back seat. It may be the case that very important family relationships are then neglected, leading to developmental problems in children that have a high probability of translating into deviant behaviour such as substance abuse (for example Rhodes & Jason (1990)'s study discussed later on). In the community of interest, this low socio-economic status is tied to SA's political history of unequal distribution of resources. This is an example of how the macro- (socio-political environment) and chronosystems impact on the microsystem and indirectly on the child's development.

As a result of the exploratory nature of this study (that is part of a bigger research project that is focusing on all the levels of the theory) the focus is, at this stage, on specific aspects in two of the levels of theory, namely the micro- and the macrosystems.

International and South African studies on Substance Use

The eco-systemic theoretical framework has proved useful in several studies done in the area of drug abuse internationally (Dishion, Kavanagh & Kiesner, 1998; Dishion, Capaldi & Yoerger, 1999; Rhodes & Jason, 1990), with most focusing on family factors. In a study of the factors that protect adolescents against drug use, Rhodes and Jason (1990) found that substance abuse is strongly correlated with family support and assertiveness. Dishion et al. (1999) used structural equation modeling to determine whether contextual risk factors, family management predictors, peer process and personal characteristics best predict substance abuse. They found that family, peers and individual characteristics are inextricably linked within the child's ecology, and together impact on adolescent substance abuse. In their study on developing parenting practice interventions to address early drug use in at-risk youth, Dishion et al. (1998) also made use of an eco-systemic theoretical framework to understand the risk of problem behaviour and the development of interventions across developmental stages. They found that early onset substance abuse was associated with antisocial behaviour, which in turn was associated with involvement with a drug-using peer group. They argue that ineffective parenting practices are at the centre of the problem, and recommend interventions to remedy these practices.

A number of studies have been conducted in South Africa (SA) that look at contextual factors that contribute to substance use (Brook et al., 2006; Flisher, Parry, Evans, Muller & Lombard, 2003; Gana, 2004; Parry et al., 2004; Swartz-Fillies, 2007; Visser & Routledge, 2007; Ward et al., 2008). These studies consider different contributory factors that fall into one or more of the eco-systems of Bronfenbrenner's theory as described above. Flisher et al. (2003) quantitatively examined individual factors as well as factors that refer to the micro-, meso-, exo- and macrosystems of the above-mentioned theory. These factors included mostly demographic factors, such as gender and age, related to increased risk of substance use. Ward et al. (2008) found factors such as religious involvement, employment and stress to be associated with substance abuse. This study focused on individual and macrosystem factors, whereas Gana (2004) focused on micro- and macrosystem factors. Gana's study found that adolescents most at risk of substance use were those who were closely connected to their peer groups, and those who were from single parent families.

In a qualitative study, Swartz-Fillies (2007) found that participants experienced unstable family lives, which left them with feelings of hopelessness and depressive symptoms. Parry et al. (2004), on the other hand, examined the social and neighbourhood correlates for drinking amongst adolescents, which falls within the macrosystem in Bronfenbrenner's theory. They found that being exposed to public drunkenness significantly predicts drunkenness in adolescents. Brook et al. (2006) found that adolescents who use substances are more likely to have parents who use

substances, and that parents of non-users report more warmth than conflict in the relationships with their children. Visser and Routledge (2007) explored only individual factors by examining the relationship between psychological wellbeing and substance use, and found that adolescents who use substances have significantly lower levels of psychological wellbeing and life satisfaction.

Rationale for the Study

At the conclusion of their study, Brook et.al. (2006) strongly recommended that a bio-ecological systems framework be used to better describe the influences of the associated factors in a South African context, since there could be factors at the different levels (i.e. personal, family, community, cultural, societal, political and historical) that impact on substance use in low socio-economic South African communities. This research is still lacking especially from the subjective perspective of the youth themselves. International studies partially applied the bio-ecological systems theory, but in communities that are not comparable to the sample for this study. Our sample differs vastly in terms of history, culture, and other societal factors and functioning, from the communities used in international studies. While a number of South African studies used a systems theory perspective, these studies either partially focused on contextual demographic risk factors such as gender, race and age (Flisher et al., 2003; Parry et al., 2004; Visser & Routledge, 2007; Ward et al., 2008), while others focus exclusively on those risk and protective factors that contribute to a demographic profile of adolescent substance users (Maseko, Ladikos, Prinsloo, Nesor, van der Merwe & Ovens, 2003). None proceeded from a subjective perspective of wellbeing in relation to these contextual factors. The one study that looked at subjective wellbeing (Visser & Routledge, 2007) focused on individual factors only.

The Cape Flats community where this research was conducted is home to over 60 000 people, 98% of whom are so-called “coloured”. Afrikaans is the mother tongue of 90% of the population. Only 66% of the economically active population is employed. Just over half of those who are employed earn under R1600 per month and are employed in elementary occupations. The area is classified as a “public housing area”, which means that it consists mostly of council-built housing. As mentioned in the introduction, the community is plagued by gangsterism, drug abuse and high rates of violent crime². The use of substances such as alcohol and dagga is often regarded as normal, and as part of everyday socialisation over weekends, especially (Davids, personal communication, 2010). Many of the community facilities and resources are poorly resourced and are often in an advanced state of neglect. Even so, not all adolescents in this community are trapped in the destructive cycles of substance abuse, crime and violence that are often characteristic of communities such as described above. We were therefore particularly interested, from a point of subjective wellbeing, in those contextual factors (at a micro- and macro- eco-systemic level at this stage) that differentiate between users and non-users of drugs in this specific community.

² No reference is provided for reasons of confidentiality and to avoid stereotyping the community. The authors can be contacted for more details if needed.

Research Aim and Questions

The overall aim of the study was to determine whether there is a difference in subjective wellbeing, as measured by the Kidscreen52, in adolescent substance users and non-users in a Cape Flats community. The specific research questions were:

1. What are the trends with regard to drug use among Grade 10 and Grade 11 children in the sample, taking gender and grade into consideration?
2. What are the levels of subjective wellbeing of drug-using and non-using adolescents in a Cape Flats community?
3. What are the differences between drug-using and non-using adolescents in subjective wellbeing?

Method

In this exploratory, quantitative study, a differential research design was employed to test if there were differences between the groups of drug-using and non-using adolescents with regard to subjective wellbeing. The sample was selected from one Cape Flats' school for inclusion in this study. The school can be regarded as a typical school as found in the Cape Flats community, and one can therefore also regard the study as a case study of a typical group of children from this community, using quantitative data to explore the relation between contextual factors from a subjective wellbeing perspective, and substance abuse.

Participants

Non-probability purposive sampling was employed to select 179 Grade 10 and 11 learners (aged 15-18) from one Cape Flats' school. The sample included all the learners in the two grades who were present at school on one particular day of data collection during March 2009. Attention was given to representation with regard to gender, grade and home language. Only those children who reside in a Cape Flats area were included in the sample, while the age range was limited to 15-18 years. Of the 179 participants in the study, 31.3% were in Grade 10 and 68.7% were in Grade 11. The sample consisted of 41.3% males and 58.7% females; of the 56 Grade 10 learners, 54% were male, while in Grade 11 only 36% of the 105 were male. Seventy percent indicated that Afrikaans was their home language, while 29.8% indicated that they spoke both English and Afrikaans at home, and none spoke only English.

Data Collection Tool

The data collection tool consisted of three sections, namely a biographical information section, a section dealing with questions about substance use, and the Kidscreen52 section. The questionnaire was administered in Afrikaans as the most widely spoken language of this community. The biographical section sought information on age, grade, gender, language, and area of residence. The section on substance use included questions such as: "Oor die afgelope ses maande, het jy enige ander dwelms soos dagga, mandrax (buttons), unga (heroin), e (ecstasy), ens... gebruik?" (*Over the last six months, have you used any substances such as ...?*).

The third section, the Kidscreen52, is a measure of self-reported health and wellbeing of 8-18-year-olds and consists of 10 subscales (Ravens-Sieberer et al.,

2008). It assesses the frequency of behaviour or feelings, or the intensity of an attitude on a five-point Likert scale with a recall period of one week. The following table will give a description of each of the sub-scales as well as an example of an item from each of these sub-scales.

Table 1: Description of subscales

	Name of subscales* and example of items	Concept
1.	Physical activities and health (5) e.g. Have you felt fit and well?	level of physical activity, energy and fitness.
2.	Feelings (6) e.g. Has your life been enjoyable?	psychological well-being including positive emotions and satisfaction with life.
3.	General mood (7) e.g. Have you felt that you do everything badly?	depressive moods and emotions as well as worries and stressful feelings.
4.	About yourself (5) e.g. Have you been happy with the way you are?	perception of self including whether appearance of body is viewed positively or negatively.
5.	Free time (5) e.g. Have you had enough time for yourself?	opportunity for create social and leisure time.
6.	Family and home life (6) e.g. Have your parent(s) understood you?	relationship with parents and atmosphere at home.
7.	Money matters (3) e.g. Have you had enough money for your expenses?	financial resources.
8.	Friends (6) e.g. Have you spent time with your friends?	relationships with peers.
9.	School and learning (6) e.g. Have you enjoyed going to school?	perception of own capacity, comprising learning, concentration and feeling about school.
10.	Bullying (3) e.g. Have you been afraid of other boys and girls?	feeling rejected by peers.

* Number of items in brackets

The instrument was designed to identify at-risk children and adolescents with regard to their subjective health in the European context. Comprehensive details on the initial construction of this instrument are reported in studies by Ravens-Sieberer et al. (2008). They report that reliability and validity were established on a range of

European samples. Convergent and discriminant validity were established, as well as Cronbach's alphas for the 10 sub-scales, ranging between 0.76 and 0.89.

The Kidscreen52 was translated into Afrikaans in line with the guidelines of the International Test Commission (2000), after receiving permission from the developers of the questionnaire. For the sample in the study, the Cronbach's alphas on the Afrikaans version ranged from 0.68 to .87 per sub-scale.

Further research with regard to the stability of the factor structures of the English version of the instrument in the South African context is currently underway (Taliép, 2010). The satisfactory Cronbach's alphas are an indication, however, of the applicability of this instrument for use in this population at this stage. Because we do not have norms for the South African population at this stage, we used raw scores in the analysis and interpretation of the results. To aid interpretation, we decided to regard mean scores lower than two-thirds of the possible maximum per sub-scale as "deflated scores", and scores higher than two-thirds, but less than three-quarters of the maximum score as "medium scores". Scores higher than three-quarters of the possible maximum score per sub-scale were regarded as "high scores".

Data Collection Procedures

Ethical clearance for the study was received from the University of the Western Cape (UWC) research committee in 2009. The school's principal and the Western Cape's Education Department's research director were approached for permission to conduct the study with the learners. Once access was granted, information letters and consent forms were sent to the parents. Data collection took place during school hours. Only learners who had signed consent forms from their parents were allowed to participate in the study. These learners were given information sheets as well as assent forms to sign on the day of the data collection, after which questionnaires were distributed to be filled out in class. Honours students of the Psychology department were present during the completion of the questionnaires to oversee the process and answer questions, if any.

Data Analysis

Both descriptive and inferential statistics were calculated using SPSS, version 17.0. Cross tabulations and one sample chi-square statistics (to find if proportions were different in categories of yes and no) were used to analyse trends with regard to grade, gender and substance use (research question 1). With regard to research question 2, means and standard deviations were used to provide an understanding of the trends in the subjective wellbeing of both groups of adolescents, also across gender and the two grades. A Hotelling's T^2 analysis was used to test for significant mean differences between the two groups of substance users and non-users with regard to subjective wellbeing (research aim 3). The Hotelling's T^2 is used to control for the increase in type 1 error that results from repeated t-tests on several sub-scales. Post hoc Bonferroni t- tests were conducted to establish on which of the sub-scales significant differences existed. Partial eta square was used to calculate effect size.

As a result of the trends for males and females with regard to substance use, a post hoc Factorial ANOVA analysis was conducted to assess the effect of gender in addition to drug use, on those sub-scales where substance users and non-users were found to differ significantly.

Results

The results are presented per research question.

Research question 1: what are the trends with regard to drug use among the Grade 10 and Grade 11, and gender groups?

Of the 179 respondents, 62 (35%) reported to be using substances. Significantly more males (40% in both grades) than females (grade ten = 23%, grade eleven = 33%) across the two grades used substances ($p < 0.05$). Slightly more Grade 11s (36%) had used substances than Grade 10s (32%); this difference was not significant, though ($p > .05$).

Research question 2: what are the levels of subjective wellbeing of drug-using and non-using adolescents in a Cape Flats community?

The following table shows the means and standard deviations on each of the 10 sub-scales for users and non-users.

Table 2: Means and standard deviations for users and non-users

Kidscreen52 subscales *	Users Mean (SD)	Non-users Mean (SD)
Physical activities and health (25)	16.74 (4.64)	17.89 (4.65)
Feelings (30)	23.02 (5.19)	24.64 (4.19)
General mood (35)	25.48 (6.56)	28.52 (5.77)
About yourself (25)	20.24 (4.40)	21.05 (4.29)
Free time (25)	19.50 (4.11)	19.95 (4.585)
Family and home life (30)	21.68 (6.21)	24.03 (4.95)
Money matters (15)	9.61 (3.57)	10.21 (3.20)
Friends (30)	23.98 (5.59)	23.26 (5.48)
School and learning (30)	23.02 (4.47)	25.10 (4.23)
Bullying (15)	13.53 (2.94)	13.39 (2.48)

* Total score per sub-scale indicated in brackets. Higher scores demonstrate higher levels of well-being.

Figure 1 demonstrates the mean scores on each of the sub-scales for the substance users and non- users graphically.

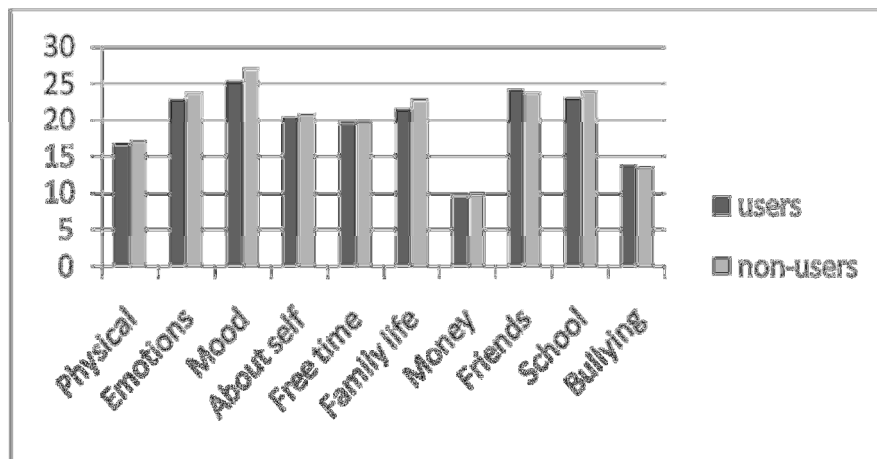


Figure 1: Graphically representation of mean scores on the subscales of Kidscreen52 for substance users and non-users

In this table and graph it is clear that the trend is for substance users to have lower scores than non-users on all the sub-scales except “Friends” and “Bullying”. On “Bullying”, the two groups had the same mean scores, while the non-users had a slightly lower mean score on ‘Friends” than the substance users.

A further trend was for both groups to present with mean scores (relative to the maximum score) which generally indicated medium levels of subjective wellbeing (see the instrument section under “Methodology”) in the areas measured by this instrument. The exception was “Bullying”, where the mean score was quite close to the maximum, on the one hand, and “Physical activities and health”, “Family and home life” (with the users groups lower than the non-using group) and “Money matters” where the trend was for the mean scores to be lower relative to the maximum score for the whole group, on the other hand.

Research question 3: what are the differences in subjective wellbeing between substance users and non-users?

Table 3 presents the results of the Hotelling’s T² to explore overall differences between the two groups, as well as the post hoc t-tests to find on which sub-scales the two groups differed significantly.

Table 3: Results of the Hotelling’s T²

Effect	Value	F	Hypothesis df	Error df	Sig.
Hotelling's Trace	.16	2.72	10	168.00	.00
Source	Dependent Variable	Df	Mean Square	F	Sig.
Corrected Model	Physical activity and health	1	50.38	2.33	0.13

Feelings	1	5.41	4.18	0.04
General mood	1	384.13	10.13	0.00
About yourself	1	31.63	1.68	0.20
Free time	1	8.41	.43	0.52
Family and home life	1	233.74	7.94	0.00
Money matters	1	11.71	1.06	0.31
Friends	1	24.87	.81	0.37
School and learning	1	180.40	9.65	0.00
Bullying	1	.56	.08	0.78

Significant overall differences were found between users and non-users on overall wellbeing, while the post hoc t- tests revealed significant differences (albeit small if one takes the effect sizes into account) between the users and non-users on four of the sub-scales, namely “Feelings” (effect size = .02), “General mood” (effect size = .06), “Family and home life” (effect size = .04), and “School and learning” (effect size = .05). Substance users scored lower on these four sub- scales than non-substance users (see table 4).

Post hoc analysis: the effect of gender and substance use on the sub-scales with significant differences

The analysis revealed that there were no statistically significant main effects for gender or any interaction effects for “Feelings” (Gender: $F(.97)$ $p = 0.334$; Interaction: $F(.20)$ $p = .697$), for “Family and home life” (Gender: $F(1,83)$ $p = 0.178$; Interaction: $F(.06)$ $p = .804$) and for “School and learning” (Gender: $F(.004)$ $p = 0.948$; Interaction: $F(.46)$ $p = .500$). In other words, both males and female substance users scored lower than non-users on these scales, while males and females in general did not differ on these scales.

With regard to “General mood” there was a statistically significant main effect for gender ($F(4.91)$ $p = 0.028$, effect size = 0.03), indicating that scores for male and female adolescents were significantly different on this sub-scale, with females scoring lower than males. The trend was for substance-using females (mean score = 23.69) to score lower than non-using females on this scale (mean score = 28.27), while the two groups of males (non-users and users) presented with the same mean scores (mean score = 28.77 and 27.40 respectively); however, since the interaction effect was non-significant ($F(2.86)$ $p = .093$), we conclude that the effect of substance use on “General mood” is independent of gender, and that the differences between males and females on this scale were independent of substance use.

Discussion and Conclusion

While substance use in this sample was generally lower than some estimates for the Cape Flats communities (Plüddemann et. al., 2008), the fact that such a large

percentage of the adolescents (34%) reported having used substances at some stage, remains disconcerting. On the other hand, the percentage is higher than the reported 19% for so-called “coloured” youth in Reddy et al. (2002). While it is not possible to compare these figures with other more affluent communities, and given the reported trends of a higher prevalence of “coloured” people reporting for treatment to treatment centres in the Western Cape (Plúddemann et. al., 2008), it would be safe to say that this percentage may in fact be higher than we would find should we conduct similar research in other communities. We also need to keep in mind that the study was conducted at a school. We know that regular substance users are more likely to have dropped out of school by Grades 10 or 11 (Flisher et. al., 2003). They would therefore not be represented in this sample, and this can be regarded as a limitation of this study. The study is not a prevalence study in the first place, however.

The other important trend was for proportionally more males than females, in both grades, to report substance use. This trend is supported in prevalence studies at treatment centres in the Western Cape and elsewhere in South Africa and internationally (Kandel & Logan, 1984; Parry et al., 2004; Plúddemann et. al., 2008). An interesting finding was that the females in the sample scored lower on “General mood” than the males, irrespective of substance use. The tendency for girls to report significantly lower levels of mood during adolescence has been found in other research as well (Kandel & Davies, 1982). Despite this finding, these adolescent girls reported to be less likely than their male peers to use substances. It seems that contextual factors in this community may be impacting differentially on the two gender groups, and that it is important to explore and explain this further. Further research on this specific aspect is therefore needed, incorporating more levels of the theoretical framework and other aspects that may be more relevant for these communities in a questionnaire on subjective wellbeing. One example one can think of is subjective wellbeing related to levels of gangsterism, and its connection to unemployment.

Overall, it is clear that children who use substances experience more negative feelings about themselves and in general, while they have more problems with family relations and their adaptation to school than those children who do not use substances. These relationships can be interpreted in two ways: the one is that these problems at home and school, as well as the negative feelings, lead to substance use, while the other is that substance use is contributing to negative feelings, as well as problems in the family and at school. While from this study it is not possible to draw conclusions about cause and effect, the importance of the finding is that it points us in the direction of specific intervention programmes and activities, and that it substantiates a focus on children who experience problems at home and at school. It also supports a focus on self-concept (as it relates to “Feelings”) and on assisting children with feelings of depression and general lack of self-efficacy in prevention programmes.

While peer influence is highlighted in the literature as an important factor in substance use and abuse (Gana, 2004), in our sample the users and non-users did not report differences with regard to “Friends” or “Bullying”; in other words, users and non-users report positive experiences with regard to support from friends, and do not

report more rejection from peers than non-users. It should be kept in mind that the measurement of “Friends” did not include questions about the nature of the groups, and also did not attempt to establish “unhealthy” peer influence. Both groups may therefore have friends they can rely on, and feel accepted by their friends, but the friends in the one group may consist of substance users and in the other, not. Given the fact that both groups clearly regarded friendships as important, and experienced these friendships as supportive, more so than was the case with their families, it remains important to pay attention to peer influence in substance-abuse prevention programmes.

It is also apparent that overall, the children in the sample did not present with severely deflated scores on most of the sub-scales. Of significance is the finding that, on the sub-scales with the lower scores, the two groups (users and non-users) differed only with regard to family and home life, with the scores of the non-users moving into the more acceptable range, and the scores of the users being within the less acceptable range.

These findings are supported by other research. For example, Brook et al. (2006) suggest that adolescents use substances to block out negative emotions, while most of the studies have found family instability to be associated with substance use (Brook et al., 2006; Flisher et al., 2003; Gana, 2004; Swartz-Fillies, 2007). The stress experienced by adolescents in these families, as well as feelings of rebellion, can also contribute to their decision to use substances. A number of studies also link these family problems to peer influence as a contributory factor (Brook et al. 2006; Swartz-Fillies, 2007). Flisher et al. (2003) have also found that low school bonding is associated with absenteeism and drop-out rates and are connected to deviant peer-bonding, which further increases the risk of substance use.

This study succeeded in helping us explore and understand some of factors that distinguish adolescent users of substances from non-users who all live, play and go to school in a low socio-economic status community in the Western Cape. This is the first study of its kind in that it began to explore contextual factors, using the bio-ecological system’s theoretical framework, from the subjective wellbeing perspective of children in these kinds of communities.

The main limitations of the study are related to its limited focus on only some aspects, mostly from a European community perspective, as the questionnaire and some levels of the bio-ecological systems theory were developed in that context. However, this study forms part of a larger project that is starting to explore more relevant aspects (in terms of this particular community) and more levels of the theoretical framework. In addition, it will also be important to complement some of the findings of the research with qualitative research to explore these findings in more depth.

The main value of this study is that it validates quantitatively, intuitive decisions to focus intervention programmes on self-concept, handling of feelings, and family and school relations. These intervention programmes need to be focused on the children themselves, but also need to include programmes with the teachers, parents and community leaders.

References

- Boemmel, J., & Briscoe, J. (9 May 2001). Web quest project theory fact sheet of Urie Bronfenbrenner. National Louis University. Available online: <http://pt3.nl.edu/boemmelbriscoewebquest.pdf> (Retrieved 11 July 2010).
- Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development.*, USA: Sage Publications.
- 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.
- Dishion, T.J., Capaldi, D.M., & Yoerger, K. (April 1999). Middle childhood antecedents to progressions in male adolescent substance use: an ecological analysis of risk and protection. *Journal of Adolescent Research, 14*(2), 175-205.
- Dishion, T.J., Kavanagh, K., & Kiesner, J. (1998). Prevention of early adolescent substance abuse among high-risk youth: A multiple gating approach to parent intervention. In R.S. Ahsery, E.B. Robertson, & K.L. Kumpher, (Eds.), *Drug abuse prevention through family intervention* (NIDA Research Monograph 177, pp. 229-259). Rockville, Md: National Institute of Drug Abuse.
- Flisher, A.J., Parry, C.D.H., Evans, J., Muller, M., & Lombard, C. (2003). Substance use by adolescents in Cape Town: Prevalence and correlates. *Journal of Adolescent Health, 32*(1),
- Gana, T.L. (2004). *The influence of peers, community and religion on adolescent substance use in the Cape Metropolitan area.* University of the Western Cape: Unpublished Master thesis.
- Greydanus, D.E., & Patel, D.R.P. (2005). The adolescent and substance abuse: Current concepts. *Current Problems in Pediatrics and Adolescent Health Care, 35*, 78-98.
- International Test Commission (2002). Guidelines for adapting educational and psychological tests. Available: http://www.intestcom.org/adapt_test.htm [accessed January 2008].
- Kandel, D.B., & Davies, M. (1982). Epidemiology of Depressive Mood in Adolescents: An Empirical Study. *Arch Gen Psychiatry, 39*(10), 1205-1212.
- Kandel, D.B., & Logan, J.A. (1984). Patterns of drug use from adolescence to young adulthood: Periods of risk for initiation, continued use, and discontinuation. *American Journal of Public Health, 74*(7), 660-666.
- Maseko, J., Ladikos, A., Prinsloo, J., Nesor, J., van der Merwe, E., & Oven, M. (2003). Learners' general attitudes and views on experimenting with drugs. *Acta Criminologica, 16*(5), 136-150.

- Parry, C.D.H., Morojele, N.K., Saban, A., & Flisher, A.J. (2004). Brief report: Social and neighbourhood correlates of adolescent drunkenness: A pilot study in Cape Town, South Africa. *Journal of Adolescence*, 27, 369-374.
- Plüddemann, A., Flisher A.J., Mathews C., Carney T., & Lombard C. (2008). Adolescent Methamphetamine use and sexual risk behaviour in secondary school students in Cape Town, South Africa. *Drug & Alcohol Review*, 27, 687-692.
- Ravens-Sieberer, U., Gosch, A., Abel, T., Auquier, P., Bellach, B., Dür, W., Rajmal, L., & the European KIDSCREEN Group. (2008). Quality of life in children and adolescents: An European public health perspective. *Social and Preventive Medicine* 46, 297-302.
- Rhodes, J.E., & Jason, L.A. (1990). A social stress model of substance abuse. *Journal of Consulting and Clinical Psychology*, 58(4), 395-401.
- Reddy, S.P., Panday, S., Swart, D., Jinabhai, C.C., Amosun, S.L., James, S., Monyeki, K.D., Stevens, G., Morojele, N.S., Omardien, R.G., & van de Borne, H.W. (2002). *Umthente Uhlaba Usamila: The South African national youth risk behavior survey*. Cape Town: South African Medical Research Council.
- Swartz-Fillies, S. (2007). *Reflection on the life-world experiences of the adolescent "tik" user*. University of the Western Cape: Unpublished Master's thesis.
- Taliep, N. (2010). *Evaluating the construct validity of the Kidscreen52 quality of life questionnaire within a South African context utilizing exploratory factor analysis*. University of the Western Cape: Unpublished Master's thesis.
- Visser, M., & Routledge, L. (2007). Substance abuse and psychological well-being of adolescents. *South African Journal of Psychology*, 37(3), 595-615.
- Ward, C., Mertens, J.R., Flisher, A.J., Bresick, G.F., Sterling, S.A., Little, F., & Weisner, C.N. (2008). Prevalence and correlates of substance use among South African primary care clinic patients. *Substance Use and Misuse*, 43, 1395-1410.