

Exploring extramural activities and the mediating link between risk and protective factors and
antisocial behaviour

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ABSTRACT

The Social Development Model attempts to explain the development of antisocial behaviour through an understanding of socialization. According to this model, an individual enters a particular context if he/she perceives there to be an opportunity within that context. The individual subsequently acts on this opportunity and engages in activities dictated by the norms and values of the context. This behavior is rewarded and reinforced. Continued interaction with individuals within that context leads to attachment to these individuals, which leads to personal commitment to the activities and individuals associated with that context. An individual is socialized in this manner and adopts the belief systems dictated by the norms of that context (Catalano, Kosterman, Hawkins, Newcomb, & Abbott, 1996). Extramural activity research suggests that it provides a positive context and opportunity for prosocial socialization. However, this research consistently appeals to the notions of protective and risk factors in their most basic forms and no research has been done in this field using the Social Development Model as a framework. This research aimed to explore the conduits through which risk and protective factors function. The cross-sectional study tested 311 high risk students between grade 6 and 9 on measures of exposure to violence, extramural participation, resources, belief systems, self esteem and antisocial behaviour. Frequency of participation was measured and regression analyses were run testing associations. The mediation proposed by the Social Development Model was explored and extramural participation was found to be associated with increases in antisocial behavior, however this was understood through it increasing exposure to violence which in turn exerted its effect on behavior. Affiliation with delinquent peers and beliefs accepting of antisocial behavior were both associated with antisocial behavior, though the mediation was not shown to be significant. Further extramural participation research is suggested using the Social Development Model.

Keywords: extracurricular; Social Development Model; protective factors; risk factors; aggression; antisocial peers

INTRODUCTION

Competence in the face of adversity is an area of study that is of particular importance in South Africa. This is due to the current situation in which a large proportion of youth, particularly in the lower socioeconomic bracket, is growing up with high exposure to harsh and adverse conditions. High rates of unemployment, poverty, and associated high rates of community violence are but some of the factors that put South African youth at risk of deviance (Patchin, Huebner, McCluskey, Varano, & Bynum, 2006).

This paper will begin with an overview of the study of resilience, and will look in particular at how it is that risk and protective factors are said to function. After exploring this, it will turn to the Social Development Model to provide a deeper understanding of these processes. Extramural participation studies will then be looked at in light of the Social Development Model in order to better explain the workings of protective factors within this context.

The study of resilience

Factors such as antisocial peers and violent home environments which increase the likelihood of youth developing both internalizing (such as depression) and externalizing problems (such as antisocial behaviours) are termed 'risk factors'. Positive adaptation and positive adjustment are here used interchangeably to refer to a child's adjustment to his/her environment using positive, 'healthy' coping strategies and the engagement in activities that are generally accepted to be prosocial. Such adaptation would thus exclude methods of coping such as withdrawal and isolation or aggressive and delinquent behaviour. Resilience, then, is the description of a pattern in which positive adaptation is paired with adversity, i.e. is present despite risk factors. This pattern can be observed with regard to individuals at different times across the developmental process and need not be present across the entire lifespan of an individual (Masten & Powell, 2003).

Protective factors

Rutter (1985) explained protective factors as those factors that lessen the effects of adversity, but themselves are more than merely the absence or reverse of a risk factor (as cited in Fergusson & Horwood, 2003). He suggested that protective factors, risk factors, and outcomes interacted in such a way that a protective factor was helpful (protective) to the outcome only in the presence of the risk factors, and had little or no effect in the absence of adversity. For instance - a grandparent may have little to no benefit in terms of the adjustment

of a child with good parental role models; however, this same presence may be beneficial (protective) to the adjustment of a child with antisocial parents (a risk factor).

Fergusson and Horwood (2003) argue that not all contributors to resilience work in this way. Rather they assert that these contributors might be explained in terms of either 'protective processes' (Rutter's definition) or 'compensatory processes'. Here 'compensatory processes' describes those contributors to resilience that are adaptationally beneficial both in the presence of and absence of risk factors. A good teacher might act in this 'compensatory process' manner in that he/she would provide those children from high risk environments with both an education and an avenue of prosocial development, but would also be instrumental in the development of those children from low risk environments.

Masten and Powell (2003) outline ways in which protective factors are often studied, one being an exploration of the way in which different variables function in order to serve a protective function for the child. The way in which it functions is then often explained with an additive or moderating model. An additive model explains the success of 'protective' variables in terms of their adding resources or options to the lives of individuals, and the availability of these resources counterbalancing for the presence of risk factors. A moderating model explains the success of 'protective' variables through their successful interaction with the risk factor such that the effect of the risk factor on the individual is minimized. Thus if the interaction of the variable and the risk factor causes the risk factor to have a lesser effect on the individual, then the variable is performing a protective function which can be explained by the moderating model (Masten & Powell, 2003).

On closer inspection, however, the additive and moderating models seem to be part of the same model of protective factors. Risk factors operate on the individual. Therefore what interacts (moderating model) with that risk factor must be within the individual. If after this interaction the risk factor has little negative effect, then that which is internal to the individual must be acting in a protective manner. Thus what Rutter (1985) has termed 'protective factors' seem not to be protective in themselves, but rather they are the resources that create the contexts in which the personality traits, value systems, beliefs, knowledge and norms of the 'protective factors' are internalized by the individual through socialization. In the same light, a risk factor might be viewed as a negative resource, and thus a resource that would create the context in which more antisocial beliefs, norms and values would be adopted and internalized by the individual. These internalised beliefs, values, norms and traits I will term the 'tools of socialization'. What seems to follow, is that a risk factor acts upon an individual by creating the context for the negative socialization of that individual and when exposed to

such an environment, the ‘tools of socialization’ of that individual (currently held beliefs, values, norms etc.) interact with the ‘tools of socialization’ promoted by the context created by the risk factor. A positive view of societal norms, high self esteem, and a regard for others would then act in a protective manner in that such beliefs would enable the individual to reject the beliefs and norms promoted by the context of the risk factor.

Returning to the additive model, protective factors (e.g., prosocial peers) are resources that create more contexts in which prosocial socialization can occur. Thus the more protective factors (positive resources), the more positive contexts are likely to be created and thus the more likely the child is to be more positively socialized. This positive socialization would then be protective through the internalised positive ‘tools of socialization’. With regard to the moderating model, the protective factors themselves do not interact with the risk factors, but rather the protective factors create contexts for socialization, and the ‘tools of socialization’ promoted by each context interact through the individual.

Figure 1 provides a simplified illustration of how protective factors provide contexts for positive socialization. Positive and negative resources create the contexts in which this can occur. In the case of positive socialization (see Figure 2), the ‘tools of socialization’ are then actively protective in that they *interact* with the beliefs, value systems, etc., promoted by the context created by the ‘negative resource’ of the risk factors. The interaction leads to the rejection of these negative beliefs and values which then results in a lesser negative effect of the risk factor on the individual’s behaviour. Positive socialization is maintained through the continued interaction with the positive, or other positive contexts. Thus it is not necessarily sufficient to be exposed to a positive context once, and continued interaction with positive resources deepens the socialization and attachment to positive beliefs systems. In this situation it is much easier to reject the negative ‘tools of socialization’ and cut the link between the negative context and the individual.

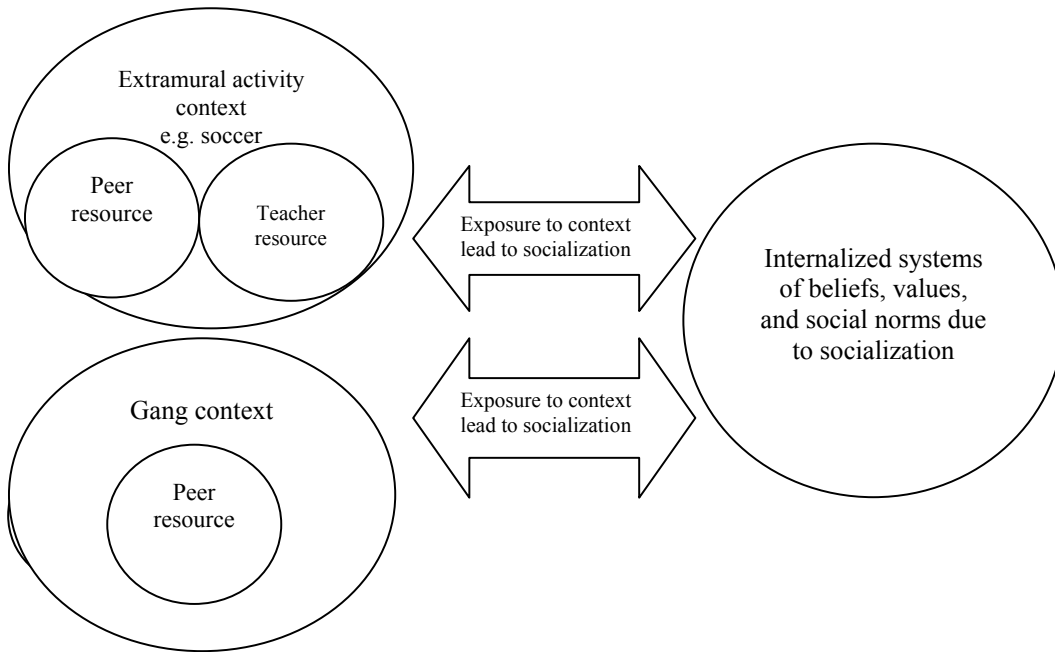


Figure 1. An example of how resource interaction within different contexts leads to socialization

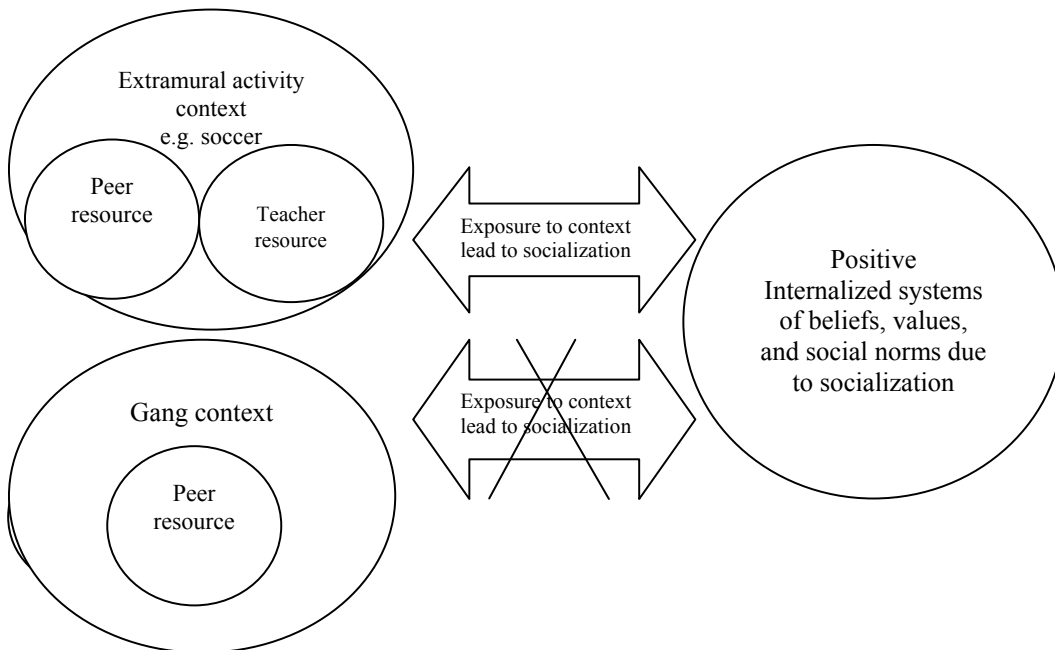


Figure 2. An example of how the acquisition of positive 'tools of socialization' leads to the rejection of the negative tools of socialization

Bringing forth the need for extramural activities – the problem of leisure boredom

A review of interviews with children living in areas with high rates of gang violence in the Cape Town area revealed that these children consistently pointed to the fact that entering a gang was sometimes a simple function of their having no available after school activities. Their involvement was therefore suggested as being partly “because they find life boring” (Ward & Bakhuis, 2009, p. 8). School, family and community settings for the most part include both prosocial and antisocial influences. Leisure boredom may tilt the choices youth make in favour of more antisocial development, because after school seemingly the only choice is antisocial, since there is often no other established alternate option (apart from doing nothing). A key focus in the reduction of antisocial behaviour therefore may be to reduce time spent in unsupervised socializing and the exposure to violence and socialization associated with it.

Extramural participation as a context for positive socialization

The Social Development Model is a theory that explains the development of prosocial or antisocial behaviours through the recognition of the contexts and related socialization in which such behaviours are created. Socialization is the process which occurs through the upbringing, educating and general interacting of an individual within a group whereby he/she adopts the values, beliefs, attitudes, behaviours and knowledge of the group and adapts his/her behaviour in such a way as to conform to the norms and requirements of that group (Colman, 2006). The protective and risk factors (resources) within each context are observed and the context is then evaluated as being predictive of either antisocial or prosocial outcomes. The more prosocial contexts an individual is exposed to over time, the more likely that individual is to be socialized in a prosocial way due to reinforcement of positive norms and bonds formed within the prosocial context. Antisocial behaviours in this instance are defined as those behaviours that are opposing to the “legal codes” of society (Catalano et al., 1996, p. 429).

Within each contextual unit positive or negative socialization can occur. Socialization that is related to the promotion of positive adjustment (positive socialization) is realised through the provision of opportunities for the involvement in activities that are in harmony with the “legal codes” and the compliant ideals of the family, school, peer group or community. This socialization through opportunity occurs when: (a) the activities allow those involved to develop the competence and skill allowing for the successful engagement in such activities; and (b) appropriate and positive behaviour is praised and reinforced by the

individuals with whom they interact within the specified context. This environment further fosters the formation of relationships within each setting, and through doing so deepens the loyalty of the individuals to behaving in accordance with the 'rules' of the activity. Related to this, conforming behaviour subsequently promotes the acknowledgment and respect of social norms and order. The creation of such ties then protects against the formation of relationships with peers with antisocial characteristics – and thereby protects against negative socialization through the involvement in contexts which foster such development (Hawkins & Weis, 1985).

Linking research to the Social Development Model

Research in the area of extramural activity seems to support the Social Development Model. It does this by showing extramural activity participation to be (for the most part) associated with positive outcomes, and thus supports the notion that socialization in a more positive context is protective. Contextual variation due to activity type, length and even breadth of individual participation lends support to the idea that it is the interactions with the resources (peers, teachers, etc.) that leads to individual socialization in a particular way, and that group identities play a role in what 'tools of socialization' are acquired. Further support for the role of resources in creating the context for socialization is given by peer mediation studies, and research indicating the link between extramural activities, self-esteem and positive outcomes is beginning to shed light on the idea of the 'tools of socialization' mediating a further link.

Contextual variation

Different extramural activities seem to promote prosocial behaviour to varying degrees. This differing effectiveness between types of extramural activities might be explained through the way in which the activity shapes the resource interactions within the context (Fredricks & Eccles, 2008).

Duration of participation within each context may also be of interest because increased time may affect the resources (e.g., peer interactions, teacher interactions) within the context. Increased duration may, for example, strengthen peer bonds and create a greater attachment and commitment to the resources within the extramural context. Greater exposure, attachment and success within the activity would make socialization within this context more likely. Fredricks and Eccles (2006) for example found duration of involvement to be a significant factor, with increased duration being correlated with more positive adjustment.

Breadth of participation is of interest because the exposure to more than one extramural context (and thus exposure to a larger variety of resources) may produce interesting results. Fredricks and Eccles (2006) found that participation in a greater number of extramural activities was associated with more prosocial peers, better academic development and psychological adjustment.

Linver, Roth and Brooks-Gunn (2009) found participation in sporting activities to be valuable in individual positive development, however outcomes were more positive for individuals who participated in both sporting activities and other organized activities.

Resources mediating between extramural participation and outcome

By looking at the factors that mediate between participation in specific extramural activity contexts and youth positive socialization and related adjustment, one is able to isolate the resources that are seemingly important in creating a context in which positive socialization is most likely to be achieved. Thus peer association is often found to be an important mediating factor, and therefore the promotion of prosocial peer association needs to be a focus of intervention programs, since the peers are often shown to be important in the creation of the context (in which positive socialization occurs).

Research on a sample with few risk factors found participation in extramural activity to be correlated with more positive development (Fredricks & Eccles, 2005). Interestingly, however, the data from this research supported the notion that extramural participation might be mediated by peer groups which in turn then has its effect on outcome. Those who participated in extramural activities reported larger numbers of positively adjusted and academically orientated peers. Having a prosocial peer group was found to account for some of the association between extramural participation and lower levels of depression. Fredricks and Eccles (2005) explained that prosocial peers might aid positive outcome formation through their provision of social support (and related reduction in feelings of isolation or estrangement in the individual); their acceptance and related reinforcing of standard positive behaviours; their example of positive emotional adjustment and commitment to academia; as well as through their encouragement of increased school involvement.

Fredericks and Eccles (2008) found involvement in after school recreational activities to be associated with higher numbers of positively adapted peers. In this particular study, however, this relationship was only found for females.

Kaufman, Wyman, Cowen, and Forbes-Jones (2001) investigated the relationship between the involvement in extramural activities and the presence of conduct problems resulting from their association with anti-social peers (as cited in Wyman, 2003). They

hypothesised that involvement in the extramural activities would allow interaction with more positively adapted peers. The study indicated that involvement in extramural activities acted as a protective factor against the development of conduct problems only for those individuals who had high exposure to anti-social peers and not for those who had lower exposure to such peers. Seeing this through the framework of options to engage prosocially, the options of those with low exposure to antisocial peers did not increase significantly. Those with high exposure to antisocial peers, however, would have experienced a significant growth in opportunity for prosocial development through their significantly increased exposure to prosocial peers.

Focussing on high risk individuals, Mahoney (2000) found that extramural activity participation protected against the development of antisocial behaviour and that its positive influence continued post schooling. Extramural participation was correlated with fewer individuals dropping out of school, and fewer criminal arrests across gender. This reduction in antisocial behaviour was found to rely heavily on the concurrent enrolment of peers in extramural activities.

Research supporting the notion of mediation between resource and outcome: Self-esteem

A further mediated link suggested by the Social Development Model lies between the identified resources and the outcome. The resources create the context in which positive socialization occurs, and therefore the measures of that positive socialization (the internalized belief systems, values, personality traits, etc.) mediates between the resource and the outcome.

Evaluation of a lagged analysis of data acquired by Fredericks and Eccles (2008) showed involvement in sporting activity to be related to increases in measures of resilience; and involvement in after-school recreational programs to be related to increases in self-esteem. The portrayal of this through aged analysis indicates that the benefits of involvement in sport may take time to reveal themselves and might be found in gradual increases in, for instance, self-esteem through the experiences offered.

Rationale for research

The social development model has been found to be a good fit for data acquired to assess the social predictors of adolescent alcohol misuse (Lonczak et al., 2001) as well as for predicting violence at age 18 (Huang, Kosterman, Catalano, Hawkins, & Abbott, 2001). However,

within the realm of extramural activity little to no research has been done testing the social development model in any way or the mediation between the resource and the outcome.

Specific aims and hypotheses

My hypothesis is that the mediating link between the resources available to those participating in extramural activities, and outcomes observed, could be described as the ‘tools of positive socialization’. These, according to the social development theory, would include an attachment and commitment to prosocial individuals and activities as well as a belief in a moral order (Lonczak et al., 2001). I hypothesise that these ‘tools of socialization’, being the conduit through which the protective factors (resources) function, will better explain the observed outcomes. In recognising this mediation we may better understand how to focus the resources to producing more positive ‘tools of socialization’. Or rather, in recognising how it is that extramural activities are effective and through which channels their effect is mediated, we may better construct extramural activities so as to extract the most benefit. Finding this mediation may provide support for the notion that belief and value systems ought to be targeting in the extramural activity setting. Other recommendations might include making the extramural context conducive to peer bonding and personal interaction with an adult role model such that these ‘tools of socialization’ are modelled and committed to.

The aim of this study is to better understand how Rutter’s (1985) view of protective factors works, specifically focusing on the context of the extramural activity. This understanding is based on the Social Development Model.

METHODS

Design

The study has a cross-sectional design, comparing youth who participate in extramural activities to those who do not.

Broadly, my independent variable is ‘extramural participation’ and my dependent variable is ‘outcomes’. In evaluating the resources as those active things that create the extramural setting, and thus make it up as a context of positive socialization, mediation of the ‘resources’ between ‘extramural participation’ and ‘outcomes’ is tested. In doing this, ‘resources’ is my independent variable and ‘outcomes’ my dependent variable. In further assessing the mediation of the ‘tools of socialization’ between the resources and the

outcomes, these ‘tools of socialization’ become the independent variable and ‘outcomes again the dependent variable.

Participants

Two schools in the Nyanga area were chosen – both having roughly equivalent resources and exposure to violence - and their grade 6, 7, 8 and 9 classes were sampled for participants. The schools selected were both recipients of NGO assistance specifically targeting extramural activities. The area in which the schools are situated was chosen based on it being an area in which many of the children have been exposed to high risk. The area therefore seemed appropriate for a study looking at protective factors which assumes risk.

Ethical approval for this study was granted by the Western Cape Education Department as well as the Research Ethics Committee of the Psychology Department at the University of Cape Town. Once approved, further permission was sought from the school principals at the relevant schools. Consent forms were sent to the parents or guardians of the students to be signed and returned. Assent forms were given to the students on the day of the testing so that they themselves were able to decide whether or not to participate in the study. Students were only allowed to participate in the study if both written informed consent and informed assent was returned.

Materials

Selected scales from the Social and Health Assessment (SAHA), Communities that Care (CTC) and the Dubois Self-esteem scales were used in the evaluation of the participants. The SAHA and Dubois scales were selected due to their prior successful use in South Africa (Ward, Martin, Theron, & Distiller, 2007; Wild, Flisher, Bhana, & Lombard, 2004), and good internal consistencies. The CTC scale was selected due to its construct validity and reliability across demographic groups (Glaser, Horn, Arthur, Hawkins, & Catalano, 2005).

Exposure to violence

Exposure to violence in the Nyanga area was a necessary measure because one of the aims of the study was to show that whilst all participants are from the same area in which negative resources (risk) are widespread, those involved in extramural activities are exposed to fewer negative resources and a greater number of positive resources. By removing oneself from the gang environment for example, one is being exposed to fewer negative resources. The SAHA scale for ‘Exposure to Violence’ was used. This 14-item scale measures both the witnessing

and actual victimization of community violence by asking whether the participant has experienced or witnessed any of the seven community violence options provided.

Extramural participation

Participation in extramural activities was measured in order to compare those with more participation to those with less. The SAHA Conventional Involvement Scales and Items, which inquires as to the nature, breadth, and duration of activity participation, was used, with only those items relevant to extramural activity being selected.

Resources

In terms of relevant resources, scales were selected to measure those particular resources that extramural activity could be said to influence.

The SAHA measure of Affiliation with Delinquent Peers is a nine-item scale that assesses peer risk behaviour including a stipulation of the number of peers involved in risk behaviours such as drug usage.

Parenting behaviours is one of the channels through which it is hypothesized extramural participation affects outcomes. Parental involvement, warmth, supervision and consistency were measured using the SAHA Parenting scales.

The presence of positive interaction with an adult figure within the extramural activity context was measured as this will indicate a positive resource. The CTC scale for Recognition for Prosocial Involvement measures the positive reinforcement received by teachers. This scale was altered in order to refer to teachers of extramural activities. Thus an item such as, "My teachers notice when I am doing a good job and let me know about it" was altered to state "my extramural teacher" and the student asked to agree or disagree. .

It is also hypothesized that extramural participation increases positive community involvement with youth. The CTC Recognition for prosocial involvement scale was be used to measure this, with items such as the following: "Agree or disagree - There are people in my neighbourhood who encourage me to do my best."

Due to the nature of socialization and the idea of increased involvement with relevant resources, it was deemed necessary to test the beliefs of those resources. Parental attitudes to drugs and antisocial behaviour were measured using the CTC scales and Community norms were also measured using the CTC scale which asked about how wrong most adults in the community would find engagement in drug and alcohol abuse.

'Tools of socialization'

Beliefs were measured using the SAHA scale of Prosocial Beliefs which requires the participants to rate 'how wrong' they perceive certain behaviours to be, and the CTC Belief in the Moral Order scale which assesses the participant's willingness to betray 'moral codes'. An example of an item from the CTC scale would include a request to agree or disagree with a statement such as the following: "I think sometimes it's okay to cheat at school".

The Dubois questionnaire is a 43-item test for self-esteem. However, the questions reflect that, more specifically, 'prosocially orientated' self-esteem is being tested. A sample item for example asks the participant to agree or disagree with the following statement, "I am as good a student as I want to be". This slant in focus is relevant because negative contexts too can promote the more generic high self-esteem, however, this would not act protectively.

Outcome

The chosen outcome associated with exposure to risk was antisocial behaviour. Antisocial behaviours and conduct disorders were measured using the SAHA Antisocial Behaviour Scales. This incorporates three subscales which assess different levels of severity of behaviour, from conduct problems to severe anti-social behaviours. Participants were required to report how often they carried out each behaviour on a scale on zero to five times during the year passed.

Procedure

The questionnaires were translated into isiXhosa and piloted on 15 students in grade 6 in a third school in the Nyanga area. This pilot was done in order to detect difficulties experienced by the learners in the completion of the questionnaire and these were discussed with the learners once they had completed filling them in. Notes were made as to which words were not well understood, and what data was noticeably left out, and alterations were made accordingly to both the questionnaire and verbal instruction.

Consent forms were handed out a week before the testing, and signed copies were collected at the door as an admission requirement to entering the testing venue. The testing was conducted grade by grade, during a free period within school hours, and was invigilated by myself, the grade teacher and a research assistant. Once the students were seated, a short description of the study was narrated to the learners, assent forms were handed out, verbally explained and collected immediately after being signed. Learners were reminded that they are under no obligation to take part in the study and may stop at any point should they feel

uncomfortable continuing. Anonymity was also assured. The questionnaires were distributed amongst the learners after which we together filled in demographic information and went through two practice questions on the front cover. After any questions had been answered, they were instructed to read the instructions to themselves and begin when ready. Time being judged through information obtained through the pilot study, students were informed that they had an hour to complete the questionnaires, but also told not to rush. Those who had not yet completed after an hour were given extra time until they had completed.

Due to the questionnaire asking about exposure to risk, one potential consideration was that this questioning could bring up difficult emotions for some of the students. Dealing with this possible concern, each participant received an information sheet with the Childline and Safeline contact numbers on it. The research assistant and I also remained behind in the classroom once the questionnaires had been completed in order to answer any questions.

RESULTS

Grades 6 (30.55%), 7 (30.55%), 8 (18.65%) and 9 (20.26%) were tested, with the age of participants ranging from age 10 to 19. The total sample size is 311 students and 70.42 % of the sample was between the ages of 12 and 16. In terms of gender distribution, 48.23% of the sample was female, and 47.91% was male. .

Scales

Cronbach's α was run on each scale once the data had been collected in order to check internal consistency reliability. All scales with a Cronbach's alpha of 0.70 and above were interpreted as having an acceptable level of internal consistency reliability, and those scales with lower alpha values were discarded (see Table 1).

Table 1
Internal consistency reliability for tested scales

Scale	Cronbach's alpha
Self esteem	0.89
Extramural participation	0.70
Perceived teacher support	0.42
Affiliation with delinquent peers	0.74
Exposure to violence (witnessed)	0.87
Exposure to violence (victimized)	0.83
Exposure to violence (combined score)	0.87
Prosocial beliefs	0.87
Belief in a moral order	0.09
Antisocial behaviour	0.93
Neighbourhood recognition for prosocial behaviour	0.60
Parental attitudes to drugs	0.67
Parental attitudes to antisocial behaviour	0.66
Community norms	0.79
Parental warmth	0.74
Parental involvement	0.66
Parental supervision	0.75
Inconsistent parenting	0.42

Table 2
Descriptive statistics of the variables

	<i>n</i>	<i>M</i>	<i>SD</i>
Age	311	13.74	1.63
Extramural participation	310	16.36	5.23
Affiliation with delinquent peers	310	15.96	4.55
Exposure to violence	311	24.42	8.99
Parental Warmth	311	16.79	3.03
Parental Supervision	311	26.07	5.00
Prosocial Beliefs	311	16.09	5.62
Self esteem	311	128.06	18.89
Antisocial Behaviour	311	30.82	12.60

A score of 6 is associated with no extramural participation whatsoever, whilst a score of 30 is associated with participation 6 – 7 times a week in numerous different activities. The mean

value of 16.35 indicates participation in either a number of different activities once or twice a week (each), or participation in a lower breadth of activity but more often. Thus the sample may be said to be fairly heavily involved in extramural activities. Something to note, however, is that one of the questions asked about sport and exercise that was not organized (thus not supervised), and others were not clear about whether the activities were organised or not.

Data Analysis

Data analysis was completed using the statistical program STATISTICA 8.0. The data analyses were run on the total values of each scale (summation of separate question data). For each participant, if more than half the questions in a scale consisted of missing data the total was deleted. For each analysis casewise deletion was selected.

Assumptions

All variables were shown to be more or less normally distributed and thus the assumption of normality was upheld. Regression linearity was tested with the inspection of two dimensional scatterplots for each analysis, and all data was judged to acceptably fit the linear pattern. The assumption that the residuals in a regression are normally distributed was upheld and for each analysis the outliers that lay 4 or more standard residuals away from the mean were excluded from the analysis. Inspection of the distribution of raw residuals in histogram form for each analysis revealed all residuals to be more or less normally distributed.

Hypothesis 1

Participants were scored on the SAHA Exposure to Violence scales – one being Victimization by Community Violence and the other being Witnessing Community Violence. The possible range of scores for both scales was from 7 to 35, with lower scores indicating less exposure to violence, and higher scores indicating more exposure. Descriptive statistics indicated fairly high levels of exposure to violence, with higher scores for Witnessing Community Violence ($M= 15.13$, $SD = 6.57$), and lower scores for Victimization by Community Violence ($M= 9.28$, $SD = 3.82$). Whilst these mean values may not seem particularly high, the nature of the questions should be kept in mind, and that the exposure documented was only within the past year. With 7 items on each scale, an average score of 15 may indicate a typical response scoring around 2 on the each question, which in turn would indicate once or twice having witnessed or experienced twice fairly extreme forms of

violence within the past year. Questions in the scales asked about participants either having witnessed violence or been victimized (separated accordingly between the scales), where the violence in question is being attacked, threatened, chased by gangs, stabbed or shot. Scoring a typical 2 (once or twice in the past year) for each of the 7 items in Witnessing Community Violence therefore is interpreted as a fairly high amount of exposure. Establishing the sample's exposure to violence status indicated its suitability for a resilience study in which extramural activity would be tested as an added context of socialization in which protective factors may present themselves as opponents to the risk of exposure to violence.

Table 3

Descriptive statistics of Exposure to Violence scales

	<i>n</i>	<i>M</i>	<i>SD</i>
Exposure to violence - witnessed	311	15.13	6.57
Exposure to violence - victimized	311	9.28	3.83
Exposure to violence - total	311	24.41	8.99

What followed naturally was the initial and primary hypothesis – whether exposure to violence was significantly associated with antisocial behaviour. Analysis revealed a moderate positive correlation between the summation of the two Exposure to Violence scales and antisocial behaviour ($r = 0.56, p < 0.05$), indicating that higher exposure to violence was associated with higher levels of antisocial behaviour. Controlling for age and gender, a hierarchical regression analysis with antisocial behaviour as the dependent variable indicated exposure to violence to have a significant effect on levels of antisocial behaviour, $\beta = 0.56, t(292) = 11.54, p < 0.001$. Change in R^2 upon entering exposure to violence after controlling for age and gender was documented at 0.31 which was shown to be significant. The overall model was shown to be significant, $F(3, 292) = 46.44, p < 0.001$, and included age, gender and exposure to violence as independent variables. The model explained 32% of the variance in antisocial behaviour and thus the regressors, taken together, explained a fair amount of the variation in the dependent variable.

Table 4

Regression analysis: regressing exposure to violence to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i>	R ² change
Age	0.48	0.34	0.07	1.39	
Gender (f = 1, m = 0)	-0.46	1.12	-0.02	-0.42	
Exposure to violence	0.71	0.06	0.56	11.54*	0.31*

*indicates significance $p < 0.05$ *Hypothesis 2 - Mediation*

Much literature has identified the relationship between participation in extramural activities and improved outcomes (Mahoney, 2000). Further understanding as to the relationship between extramural participation and improved outcomes and the conduits through which this occurs is aim of this study. A mediation analysis was therefore conducted to assess the link between those who socialize and the outcomes, since it is likely that the outcome is predictable according to the associated groups with whom the individual interacts (is socialized by). It was proposed that extramural participation would affect these resources, for example, it may influence parental involvement and care (perhaps getting parents more involved, or establishing reasons for parental pride), and may alter the nature of the peer group with whom the individual was likely to be involved. For the purpose of this paper these significant people have been termed ‘resources’ and resources were proposed to mediate between extramural participation and outcome (antisocial behaviour) – the effect of extramural being given through the altered interaction with these resources.

Upon investigating mediation, all three separate path relationships (as illustrated in Figure 3) are required to be individually significant before both predictor and mediator are entered into the regression together and observed (Howell, 2007).

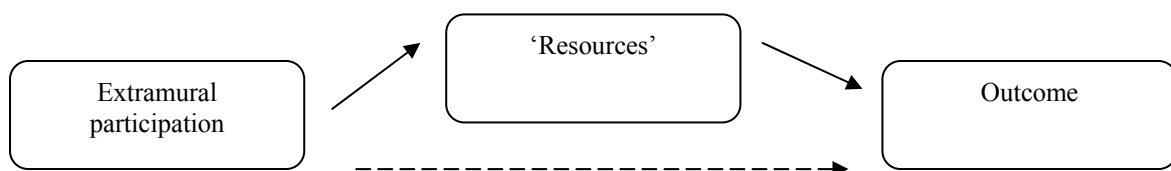


Figure 3. An illustration of the mediation of resources between extramural participation and outcome

Step 1: Is extramural participation significantly associated with outcome?

Testing the first path in this mediation, a hierarchical regression was run between extramural participation and antisocial behaviour, controlling for age and gender. Despite male gender being significantly associated with antisocial behaviour, $\beta = -0.13$, $t(289) = -2.22$, $p = 0.027$, the change in R^2 upon the addition of extramural participation into the model was significant at 0.02 , $p = 0.017$. Increased extramural participation was significantly associated with increased antisocial behaviour, $\beta = 0.14$, $t(289) = 2.39$, $p = 0.017$, a finding conflicting with previous literature. The final model was significant and included age, gender and extramural participation as independent variables, explaining a total of 4.5 % of the variance in antisocial behaviour, $F(3, 289) = 4.59$, $p < 0.004$. Despite significance, however, the small amount of variation in the dependent variable explained by the regressors ($R^2 = 0.45$) should be borne in mind since they reflect a poor and perhaps unacceptable relationship.

Table 5

Regression analysis: regressing extramural participation to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (289)	R^2 change
Age	0.41	0.36	0.07	1.13	
Gender (f = 1, m = 0)	-2.61	1.17	-0.13	2.22*	
Extramural participation	0.26	0.11	0.14	2.39*	0.02*

* indicates significance at $p < 0.05$

Step 2: Are resources significantly associated with outcome?

Observation of the table of correlations revealed parental warmth and supervision to be highly correlated, $r = 0.66$, $p < 0.05$. Therefore these variables to a large extent are explaining the same variance in antisocial behaviour. Since adding more variables to a model reduces power, the addition of any variable to the model needs to be justified by the new proportion of variance explained by the variable. Therefore due to the multicollinearity of warmth and supervision it was decided to keep only the variable with the higher partial correlation – warmth.

Controlling for age and gender, a hierarchical regression was run with affiliation with delinquent peers and parental warmth as the independent variables and antisocial behaviour as the dependent variable. Influence of peers was added to the model prior to parenting in accordance with the literature which reports that children spend less time with parents and

more times with peers in their teenage years suggesting that peers may have the greater influence over the children at this time (Felson & Gottfredson, 1984, as cited in Mahoney, Larson & Eccles, 2005). Change in R^2 upon the addition of affiliation with delinquent peers into the model was significant at 0.13, $p < 0.001$, and affiliation with delinquent peers was revealed as being significant associated with antisocial behaviour, $\beta = 0.37$, $t(289) = 6.65$, $p < 0.001$. Parental warmth, however, was not shown to be significantly associated with antisocial behaviour and change in R^2 was not significant upon its addition to the model. The final model was significant and included age, gender and affiliation with delinquent peers as independent variables, explaining a total of 16 % of the variance in antisocial behaviour, $F(3, 289) = 18.27$, $p < 0.001$. Based on the R^2 value of 0.16 the relationship strength was judged to be fairly poor.

Table 6

Regression analysis: regressing affiliation with delinquent peers to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (289)	R^2 change
Age	0.23	0.34	0.04	0.69	
Gender (f = 1, m = 0)	-1.84	1.09	-0.09	-1.69	
Affiliation with delinquent peers	0.80	0.12	0.37	6.65*	0.13*

* indicates significance at $p < 0.05$

Step 3: Is there a significant association between extramural participation and resources?

Due to the investigation being one concerning mediation, only the resource that was revealed to be significant in the preceding regression model was included in the regression of extramural participation to resources. This may be explained by considering that one cannot, for example, assume the mediation of parental warmth between extramural participation and antisocial behaviour when no significant relationship has been found between parental warmth and antisocial behaviour. Therefore, leaving out this variable that was shown not to be significant, a hierarchical regression was run with extramural participation as the independent variable and affiliation with delinquent peers as the dependent variable, again controlling for age and gender. Change in R^2 upon the addition of extramural participation into the model, however, was not significant. Therefore no significant association was found between extramural participation and resources and the mediation analysis was aborted.

Hypothesis 3

Action is performed by the individual, and outcome is brought about through the agency of the individual, therefore it might be assumed that what is within the individual

(characteristics such as beliefs, self-esteem, etc.) will determine individual outcomes.

Antisocial behaviour may be said to result, to a large extent at least, from individual choice, and such choice may be assumed to be ascertained through deliberation of beliefs. Beliefs inconsistent with antisocial action would therefore be assumed to prevent antisocial action. Self-esteem, being another individual characteristic, might also affect the willingness of the individual to assert his/her agency (act according to his/her beliefs) rather than submit to peer pressure associated with antisocial action. These individual characteristics are termed ‘tools of socialization’ for the purpose of this paper, and mediation of these ‘tools’ between ‘resources’ and outcome was tested. The question examined was – Do resources exert an effect on outcome through their influence on individual beliefs and self esteem?

Step 1: Are resources significantly associated with outcome?

As established in a previous analysis, this path was shown to be significant. The final model was significant and included age, gender and affiliation with delinquent peers as independent variables, explaining a total of 16 % of the variance in antisocial behaviour, $F(3, 289) = 18.27, p < 0.001$. Based on the R^2 value of 0.16 the relationship strength was judged to be fairly poor.

Step 2: Are ‘tools of socialization’ significantly associated with outcome?

Inspection of the table of correlations revealed only a small correlation between the two independent variables (self esteem and prosocial beliefs) $r = -0.18$ and multicollinearity was not considered to be an issue.

Controlling for age and gender, a hierarchical regression was run with antisocial behaviour as the dependent variable, and prosocial beliefs and self esteem as the independent variables. Prosocial beliefs was added first due to the assumption that one’s beliefs is likely to have a greater effect on one’s potential for engaging in antisocial behaviour than one’s self esteem, and due to beliefs being specifically mentioned as a path through to antisocial behaviour in the Social Development Model. Prosocial beliefs was shown to be significantly associated with antisocial behaviour ($\beta = 0.51, t(291) = 10.26, p < 0.001$), revealing a significant R^2 change of 0.26 upon its being entered into the model. It is important to note that whilst the scale was titled ‘Prosocial beliefs’, higher scores actually indicated higher levels of acceptance of antisocial behaviour. With this in mind, the relationship between prosocial beliefs and antisocial behaviour is intuitive – since the greater acceptance one has

of antisocial behaviour the more likely one is to engage in it. Self esteem did not significantly change the amount of variance explained by the model and thus was discarded. The overall model included age, gender and prosocial beliefs as independent variables, and explained 28% of the variance in antisocial behaviour which was judged and shown to be a fair and significant amount, $F(3, 291) = 37.55, p < 0.001$.

Table 7

Regression analysis: regressing prosocial beliefs to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (291)	R ² change
Age	0.53	0.33	0.08	1.62	
Gender (f = 1, m = 0)	-1.15	1.07	-0.05	-1.07	
Prosocial beliefs	0.96	0.09	0.51	10.26*	0.26*

* indicates significance at $p < 0.05$

Step 3: Are resources significantly associated with ‘tools of socialization’?

Due to the investigation being one concerning mediation, only those ‘resources’ and ‘tools of socialization’ that were revealed to be significant in the preceding regression models were included in the regression of resources to ‘tools’. Again, this may be explained by considering that one cannot assume the mediation of self-esteem between peers and antisocial behaviour when no significant relationship has been found between self-esteem and antisocial behaviour. Therefore, leaving out those variables shown not to be significant, a hierarchical regression was run with affiliation with delinquent peers as the independent variable and prosocial beliefs as the dependent variable, again controlling for age and gender.

Affiliation with delinquent peers was shown to be significantly associated with prosocial beliefs, $\beta = 0.32, t(292) = 5.82, p < 0.001$, revealing a significant R² change of 0.10 upon its being entered into the regression analysis. The relationship indicated that greater affiliation with delinquent peers was associated with greater acceptance of antisocial behaviour (more beliefs consistent with antisocial behaviour). The overall model was significant and included age, gender and affiliation with delinquent peers as independent variables, together explaining 12% of the variance in prosocial beliefs, $F(3, 292) = 13.38, p < 0.001$. Based on the R² value of 0.12 the relationship strength was judged to be fairly poor.

Table 8

Regression analysis: regressing affiliation with delinquent peers to prosocial beliefs

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (292)	R ² change
Age	-0.29	0.18	-0.09	-1.62	
Gender (f = 1, m = 0)	-1.11	0.58	-0.12	-1.91	
Affiliation with delinquent peers	0.37	0.06	0.32	5.82*	0.10*

* indicates significance at $p < 0.05$ **Step 4: Testing the mediation**

A fairly weak correlation between prosocial beliefs and affiliation with delinquent peers was found, $r = 0.28$ and inspection of a redundancy table with only these two variables included revealed very low multicollinearity. An R^2 value of 0.09 for both variables indicated that only 0.09 of the variance in each of these independent variables was explained by the variance in the other. Tolerance levels of 0.91, on the other hand, indicated that 91% of the variance in each of these variables was not explained by the other independent variable. Both low R^2 values and high tolerance values therefore served as evidence that these two independent variables may not be explaining the same variance – and thus mediation is unlikely. Since there was at least a small correlation between the variables, however, it was decided to continue with the regression analysis.

In testing the mediation a hierarchical regression was run with both the significant ‘resource’ (affiliation with delinquent peers) and the significant ‘tool of socialization’ (prosocial beliefs) as independent variables and antisocial behaviour as the dependent variable. Because the proposal is that the variance explained by prosocial beliefs will be the same variance that affiliation with delinquent peers explains, the thought is that once prosocial beliefs has been added to the model, affiliation with delinquent peers will no longer show up as being significantly associated with antisocial behaviour. Therefore, after controlling for age and gender, affiliation with delinquent peers was added to the model, followed by prosocial beliefs. Both variables remained significantly associated with antisocial behaviour, and the variance in antisocial behaviour explained by affiliation with delinquent peers when prosocial beliefs was added to the regression analysis was only slightly less than the variance explained by association with delinquent peers on its own. The beta value for amount of affiliation with delinquent peers in the multiple regression

containing prosocial beliefs is lower than the beta value for the regression without prosocial beliefs; however, it still significantly predicts antisocial behaviour, and the drop is fairly small (from 0.38 to 0.25). This drop is expected and would be due to the portion of overlap in the affiliation with delinquent peers and prosocial beliefs, however is not sufficient to claim mediation. Therefore mediation was unsuccessful.

Despite the fact that no mediation was found, the final regression model was significant and included age, gender, affiliation with delinquent peers and prosocial beliefs as independent variables. Overall, it explains 33% of the variance in antisocial behaviour, $F(4, 289) = 36.29, p < 0.001$. Taken together, the regressors explained a fair amount of the variation in the dependent variable, explaining 33% of the variance in antisocial behaviour.

Table 9

Regression analysis: regressing affiliation with delinquent peers and prosocial beliefs to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (289)
Age	0.32	0.32	0.05	1.00
Gender (f = 1, m = 0)	-0.73	1.04	-0.04	-0.71
Affiliation with delinquent peers	0.58	0.12	0.25	4.88*
Prosocial beliefs	0.83	0.09	0.44	8.84*

* indicates significance at $p < 0.05$

Further analysis with extramural participation

In line with the theoretical understanding of socialization and the associated link between extramural activity and positive outcome in the literature, correlation analysis was used to explore this relationship. Weak but significant correlations were found between extramural participation and self esteem $r = 0.13$, exposure to violence $r = 0.20$, and parental warmth $r = 0.13$ and supervision $r = 0.11, p < 0.05$.

Self-esteem

Fredericks and Eccles' (2008) lagged analysis on extramural activity and outcome supported the notion that outcome may over time be found through its influence on self-esteem. It was

decided therefore to run a regression on extramural activity and outcome to see if this was indeed significant, as supported by the literature.

Controlling for age and gender, a significant association was found between extramural participation and self esteem such that increased extramural participation was related to increased self-esteem, $\beta = 0.14$, $t(294) = 2.55$, $p = 0.01$. Change in R^2 upon entering extramural participation was documented at 0.02. Female gender was also shown to be significantly associated with higher self esteem, $\beta = 0.19$, $t(294) = 3.37$, $p < 0.01$.

Exposure to violence

Despite the increases in self esteem associated with extramural participation, extramural participation was still counter-intuitively associated with higher levels of antisocial behaviour. A correlation observed between exposure to violence and extramural participation revealed a relationship with the potential to better understand this data.

It was decided to run an analysis to assess if the association of extramural participation with antisocial behaviour was actually due to the increased exposure to violence associated with extramural participation.

As exposed in the previous analyses, a significant association was found to exist between extramural participation and antisocial behaviour, and exposure to violence and antisocial behaviour. Remaining to be tested (for the purpose of the mediation) was the association between extramural participation and exposure to violence.

Controlling for age and gender, a hierarchical regression analysis was run with extramural participation as the independent variable and exposure to violence as the dependent variable. Change in R^2 upon the addition of extramural participation into the model was significant at 0.07, $p < 0.001$, and the association between extramural participation and exposure to violence was shown to be significant, $\beta = 0.26$, $t(292) = 4.56$, $p < 0.001$. Including age, gender and extramural participation as independent variables, the final model was significant but indicated a poor relationship between the regressors and the dependent variable, explaining a total of 8 % of the variance in antisocial behaviour, $F(3, 292) = 8.87$, $p < 0.001$.

Table 10

Regression analysis: regressing extramural participation to antisocial behaviour

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (292)	R ² change
Age	-0.08	0.29	-0.02	-0.27	
Gender (f = 1, m = 0)	-2.2	0.96	-0.13	- 2.3*	
Extramural participation	0.41	0.09	0.26	4.56*	0.07*

* indicates significance at $p < 0.05$

Finally, to test the mediation, a hierarchical regression (controlling for age and gender) was run with both extramural participation and exposure to violence as independent variables, and antisocial behaviour as the dependent variable. Upon the inclusion of exposure to violence in the regression analysis, the association between extramural participation and antisocial behaviour lost its significance. The Beta value for extramural participation in the multiple regression with exposure to violence is lower than the beta value for the regression without exposure to violence (from 0.08 to 0.04). This drop is expected and would be due to the portion of overlap in the variance in antisocial behaviour explained by extramural behaviour and exposure to violence. A Sobel test was run and the mediation was found to be significant with a value of 4.241, $p < 0.001$. Therefore mediation was successful.

Table 11

Regression analysis

	<i>B</i>	<i>SEB</i>	β	<i>t</i> (290)	R ² change
Age	0.49	0.34	0.07	1.42	
Gender (f = 1, m = 0)	-0.43	1.11	-0.02	-0.38	
Extramural participation	-0.08	0.1	-0.04	-0.79	0.001
Exposure to violence	0.73	0.06	0.57	11.44*	0.31*

* indicates significance at $p < 0.05$

DISCUSSION

The finding that exposure to violence is associated with increased antisocial behavior was expected and is supported by the literature. An example of this is a study by Patchin et al. (2006) who found that adolescents exposed to more violence were more likely to be violent and carry weapons.

Beliefs mediating the association between peers and antisocial behavior

As predicted by the Social Development Model, affiliation with delinquent peers is associated with increased antisocial behavior. This might be explained through peers modeling antisocial behavior, praising antisocial behavior (providing opportunity for perceived rewards) and in general providing a context for the socialization of individuals towards delinquency.

Also in line with the Social Development Model, affiliation with delinquent peers was shown to be associated with prosocial beliefs, a scale on which higher scores indicated greater acceptance of antisocial behavior. Therefore the more time an individual spends being socialized by delinquents the more accepting an individual is likely to become of delinquent behavior. This comes from acquiring positive associations, being normalized, and due to one's friends engaging in these activities and thus one's attachments affecting one's judgement of the behaviours. Pardini, Loeber and Stouthamer-Loeber's (2005) study in middle adolescence also documented that beliefs reflected increasing tolerance of antisocial behavior as involvement with delinquent peers increased.

The final individual path association (as all three are investigated in a mediation analysis) – that between prosocial beliefs and antisocial behavior – was shown to be significant. Despite this, however, prosocial beliefs was not shown to mediate between affiliation with delinquent peers and antisocial behavior. A review of the complexity of behavior formation suggested by the Social Development Model may explain why this mediation was not significant. Whilst some of the variance in antisocial behavior explained by affiliation with delinquent peers may overlap with the variance explained by prosocial beliefs, prosocial beliefs cannot be expected to account for all of this variance. This is because people do not only act on the basis of their belief systems, but at times also act (or do not act) as a direct result of loyalty/obedience to attachment figures or on the basis of perceived reward. Therefore a study measuring all of these variables and conducting a mediation analysis may find it to be successful.

Extramural participation associated with increased antisocial behaviour

A surprising finding was the association between extramural participation and antisocial behavior showing that increased participation was associated with increased antisocial behaviour. The analysis might be interpreted in a number of ways: Due to the relationship between extramural participation and antisocial behaviour being so weak, it might be improper to claim that the relationship exists at all. With no association having been established, one might propose that participation was not sufficient to outweigh the effects of exposure to violence.

Another scenario might be the case of compulsory extramural participation where both antisocial and prosocial individuals are interacting and thus that the extramural activity context may not be particularly prosocial in terms of its increasing positive resources. A significant effect due to peers (which is often one of the main mediators) would not be expected in this case.

Assuming the relationship between extramural participation and antisocial behaviour to be acceptable (that extramural participation does cause increases in antisocial behaviour), an explanation might be found in line with literature which has documented an association between sporting behaviours and unfavourable outcome. Fredricks and Eccles (2008) found sporting participation to be related to higher levels of risky behaviour and to schooling being perceived as being lower in importance. These results were compared to better outcomes found in other extramural activities and were understood through acknowledging differing contexts for socialization. More specifically, the differences in the natures of the individuals who choose to participate in particular types of after school activities, the ways in which peers traditionally interact within each group, and the nature of the opportunities to acquire resources (such as personal development). Eccles and Barber (1999) found that individuals involved in sporting activities have a higher relative propensity to mix with peers that consume alcohol (as cited in Fredricks & Eccles, 2008). Here the identities associated with specific activities may be assumed to affect the identity-related behaviour that is promoted. Therefore in this analysis it might be the case that sporting identities associated with drinking and risky behaviour may have lead to the identified association. However, this seems unlikely as the association between extramural participation and affiliation with delinquent peers was not shown to be significant.

Association between extramural participation and affiliation with delinquent peers – and the resulting failed mediation analysis (extramurals-resources-outcome)

The mediation analysis of resources between extramural participation and outcome was not significant because it was discontinued due to the lack of association between extramural participation and affiliation with delinquent peers.

This lack of association between extramural participation and peer affiliation may be explained firstly by returning to the case of compulsory extramural participation where both antisocial and prosocial individuals are interacting and thus that the extramural activity context may not be providing (as has been posited) an interaction with more prosocially oriented peers and an escape from exposure to antisocial individuals (a risk factor). Rather in this case, students are spending time with delinquent peers *within* the extramural context.

A second explanation of the association between extramurals and peers not being significant may come about through an examination of the questionnaire itself. Due to the scale containing questions that were ambiguous and may have been asking about either structured or unstructured activities, and due to one question specifically referring to unstructured sporting activities, analyses using this variable (extramural participation) must take this mix into account. Wallace and Bachman (1991, as cited in Osgood, Anderson, & Shaffer, 2005) found that across race and class, socializing in an unstructured manner is associated with increased antisocial behavior, and a particularly strong relationship was found for those residing in poorer, less safe communities (Petit, Bates, Dodge, & Meece, 1999, as cited in Mahoney, Larson, & Eccles, 2005). The structure element of extramural activities has been found to be key, and unstructured programs run the risk of increasing, instead of decreasing, antisocial behaviour (Mahoney & Stattin, 2000; Mahoney et al., 2001, as cited in Osgood, Anderson, & Shaffer, 2005). Therefore it may be that a significant association existed within the structured extramural activities, but that this effect was lost in the summation of the scale.

Extramural participation associated with increased exposure to violence

Fault in the scale used to measure extramural participation might also explain the association found between extramural participation and exposure to violence, because those who were involved in more unstructured socializing were more likely out in the community and would therefore be exposed to more violence.

Another interpretation of the finding of the link between extramurals and exposure to violence is that those children involved in extramural activities may have to leave school at

later times and walk home in smaller groups – both of these points increasing their risk of exposure to violence.

Exposure to violence mediating the effect of extramural participation on antisocial behaviour

Interpreting the increases in antisocial behaviour associated with extramurals through an increased exposure to violence makes better intuitive sense than other proposed explanations. This mediation was tested and found to be successful which indicates that the increases in antisocial behavior are explained by overlap variance associated both with exposure to violence and extramural participation. A fair conclusion might therefore be that it was exposure to violence exerting the effect that increased antisocial behavior, and not extramural activity itself.

Extramural participation and self esteem

One prosocial association with extramural participation found was an association with increased self esteem. This finding is supported by the literature, and indeed Bowker (2006) found participation in sport to be positively related to all indications of self esteem across gender, whilst Pegersen and Seidman (2004) found team sport to be associated with lasting increases in self-esteem for adolescent girls.

Suggestions for future research and implications of findings

Future research might test all the variables associated with the Social Development Model and use structural equation modeling to document the complex relationships between variables. Special care should also be taken with regard to extramural participation scale selection, with the questions clearly focusing on structured and supervised extramural participation.

The current research suggests a possible link between exposure to violence and extramural participation. Practical implications on this level may be that the transport of students from their extramural programs cannot be overlooked, and may need to be part of any successful extramural intervention.

CONCLUSION

This paper has explored the effects of extramural activities on protective and risk factors, ‘tools of socialization’ and on outcome, and these effects were interpreted in light of the socialization proposed by the Social Development Model. Extramural participation was

related to increases in antisocial behaviour. However this was understood through it increasing exposure to violence which in turn exerted its effect on behavior. Affiliation with delinquent peers and beliefs accepting of antisocial behavior were both associated with antisocial behavior, though the mediation was not shown to be significant. Further research is suggested in the realm of extramural participation using the Social Development Model testing the relevant mediations.

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Plagiarism declaration

1. I know that plagiarism is a serious form of academic dishonesty.
2. I have read the document about avoiding plagiarism, I am familiar with its contents and I have avoided all forms of plagiarism mentioned there.
3. Where I have used the words of others, I have indicated this by the use of quotation marks.
4. I have referenced all quotations and other ideas borrowed from others.
5. I have not and shall not allow others to plagiarise my work.

Name (Printed): _____

Signature: _____

APPENDIX A



Department of Psychology

University of Cape Town Rondebosch 7701 South Africa

Dear parent or guardian,

We will be conducting research at your child's school to find out more about if and how extramural activities might help children. We want to see if being involved in a sport or dancing or any extramural activity helps children in any way and how.

Your child will be asked to fill out a questionnaire. We will go to the school and your child will fill it out during the school day. This will take about one hour, and will not interfere with his/her school work. The questionnaire will not be for marks, and your child will be asked not write his/her name on the paper, and so nobody will know which answers belong to which person. The information will be confidential and only used to help us in our research.

The questionnaire asks about all sorts of things, and we will be there to answer any questions. If some of the questions make your child feel uncomfortable he/she can decide to stop at any time. Being in this study will not help your child, but this study will help us learn more about extramural activities, and we may learn something that may help other children some day.

If you have any questions about this study please feel free to contact Candice Lawrie on 0826261158 or Dr Catherine Ward on 021 6503422

If you sign below, it means that you agree that your child may take part in this research study.

Parent's/Guardian's Agreement: _____

Date (MM/DD/YEAR): _____



Department of Psychology

University of Cape Town Rondebosch 7701 South Africa

Please do not write your name on this questionnaire

Age: _____

Gender:

Language:

THANK YOU FOR PARTICIPATING IN OUR STUDY

This is not a test and not for marks. There are no wrong answers. Your answers will be private and used only for research. Please answer truthfully.

Practice examples:

(A) What is 2×2 ?

0

1

2

3

4

(B) Do you like bread?

NO

no

yes

YES

The University of Cape Town is committed to policies of equal opportunity and affirmative action which are essential to its mission of promoting critical inquiry and scholarship.

We would like to begin by asking you about yourself and the different types of school and community activities you do.

1. How many times during a regular week do you:

a. Participate in organized sports activities?

None

1 Time

2-3 Times

4-5 Times

6-7 Times

b. Play sports or exercise by yourself or with friends?

None

1 Time

2-3 Times

4-5 Times

6-7 Times

c. Participate in music/art/dance activities?

None

1 Time

2-3 Times

4-5 Times

6-7 Times

d. Get tutored outside of school time?

None

1 Time

2-3 Times

4-5 Times 6-7 Times

e. Participate in after school programs?

None 1 Time 2-3 Times 4-5 Times 6-7 Times

f. Participate in youth programs or clubs?

None 1 Time 2-3 Times 4-5 Times 6-7 Times

2. Continue to circle those statements most true for you.

a. My extramural teachers/ sport coaches show concern when I am absent from school.

Definitely Not True Mostly Not True Mostly True Definitely True

b. My extramural teachers/ sport coaches are unfair.

Definitely Not True Mostly Not True Mostly True Definitely True

- c. Extramural teachers/ sport coaches are willing to help students.
- Definitely Not True
- Mostly Not True*
- Mostly True*
- Definitely True*
- d. Most of my extramural teachers/ sport coaches notice when I am doing a good job and let me know about it.
- Definitely Not True
- Mostly Not True*
- Mostly True*
- Definitely True*
- e. Extramural teachers/ sport coaches are patient when students have trouble participating.
- Definitely Not True
- Mostly Not True*
- Mostly True*
- Definitely True*
- f. Extramural teachers/ sport coaches don't often take the time to give individual attention.
- Definitely Not True
- Mostly Not True*
- Mostly True*
- Definitely True*
- g. Most of my extramural teachers/ sport coaches only notice when I'm doing bad things
- Definitely Not True
- Mostly Not True*
- Mostly True*

Definitely True

3. How many of your friends...

e. Use dagga?

None of Them

A few of Them

Some of Them

Most or All of them

f. Have had sexual intercourse ("gone all the way")? (Think of friends the same sex as you.)

None of Them

A few of Them

Some of Them

Most or All of them

g. Have been at the juvenile court because of their behavior?

None of Them

A few of Them

Some of Them

Most or All of them

i. Have skipped school a lot without permission?

None of Them

A few of Them

Some of Them

Most or All of them

j. Have been arrested by the police?

None of Them

A few of Them

Some of Them

Most or All of them

4. How many of your friends...

a. Get good marks in school?

None of Them

A few of Them

Some of Them

Most or All of them

b. Smoke cigarettes on a pretty regular basis?

None of Them

A few of Them

Some of Them

Most or All of them

c. Have dropped out of school before finishing high school?

None of Them

A few of Them

Some of Them

Most or All of them

h. Go out in the evening without their parents' permission?

None of Them

A few of Them

Some of Them

Most or All of them

d. Drink alcohol fairly regularly?

None of Them

A few of Them

Some of Them

Most or All of them

The next questions are about things that may happen to people in some neighborhoods.

5. Circle the number of times you have **seen** the following things happen in the past year. Do **NOT** include things you have only seen or heard about on TV, radio, the news, or in the movies.

I have seen...

a. Someone else being chased by gangs or individuals.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

b. Someone else get threatened with serious physical harm.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

c. Someone else getting beaten up or mugged.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

- d. Someone else being attacked or stabbed with a knife.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

- e. A seriously wounded person after an incident of violence.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

- f. Someone else get shot or shot at with a gun.

None

1-2 Times

3-5 Times

6-9 Times

10+ Times

- g. Someone else get threatened or harmed because of their race or ethnicity.

None

1-2 Times

3-5 Times

6-9 Times 10+ Times

6. Circle the number of times the following things **have happened to you** in the **past year**. Do **NOT** include things you have only seen or heard about on TV, radio, the news, or in the movies.

I have been...

- a. Chased by gangs or individuals.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

- b. Threatened with serious physical harm by someone.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

- c. Beaten up or mugged.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

- d. Attacked or stabbed with a knife.

None 1-2 Times

3-5 Times 6-9 Times 10+ Times

e. Seriously wounded in an incident of violence.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

f. Shot or shot at with a gun.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

g. Threatened or harmed by someone because of my race or ethnicity.

None 1-2 Times 3-5 Times 6-9 Times 10+ Times

For the next questions, answer for both of your parents or guardians or the parent or guardian that is most important in raising you.

7. **My parents...**

a. Ask me about my life.

Never

- Rarely*
- Sometimes*
- Often*
- b.** Tell me what time to be home when I go out.
- Never*
- Rarely*
- Sometimes*
- Often*
- c.** Forget a rule they have made.
- Never*
- Rarely*
- Sometimes*
- Often*
- d.** Are kind to me.
- Never*
- Rarely*
- Sometimes*
- Often*
- e.** Spend time on activities at my school.
- Never*
- Rarely*
- Sometimes*
- Often*
- f.** Want to know who I am meeting with.
- Never*

- Rarely
- Sometimes
- Often
- g. Make me ask permission when I go out
in the evening.
- Never
- Rarely
- Sometimes
- Often
- i. Spend their free time with me.
- Never
- Rarely
- Sometimes
- Often
- j. Nag me about little things.
- Never
- Rarely
- Sometimes
- Often
- k. Want to know if I've gotten my homework done.
- Never
- Rarely
- Sometimes
- Often
- l. Hug or kiss me.
- Never

Rarely

Sometimes

Often

m. Encourage me to be interested in different things.

Never

Rarely

Sometimes

Often

n. Correct me when they don't like how I behave.

Never

Rarely

Sometimes

Often

8. My parents...

o. Only keep rules when it suits them.

Never

Rarely

Sometimes

Often

p. Are proud of me.

Never

Rarely

Sometimes

Often

q. Give me good advice.

Never

Rarely

Sometimes

Often

r. Make sure I don't smoke.

Never

Rarely

Sometimes

Often

s. Threaten punishment more often than they use it.

Never

Rarely

Sometimes

Often

t. Show their love for me.

Never

Rarely

Sometimes

Often

u. Are interested in my friends.

Never

Rarely

Sometimes

Often

- v. Tell me what I can watch on TV. *Never*
- Rarely*
- Sometimes*
- Often*
- w. Enforce a rule or do not enforce a rule depending upon their mood. *Never*
- Rarely*
- Sometimes*
- Often*
- y. My parents make me feel good when I am with them. *Never*
- Rarely*
- Sometimes*
- Often*
- z. Make sure I don't drink alcohol. *Never*
- Rarely*
- Sometimes*
- Often*

The next questions ask what you think about doing certain things.

9. How wrong is it to...

- a. Start a fistfight or shoving match?

Very Wrong

Wrong

Bit Wrong

Not Wrong

b. Shoplift from a store?

Very Wrong

Wrong

Bit Wrong

Not Wrong

c. Damage or mark up public or private property on purpose?

Very Wrong

Wrong

Bit Wrong

Not Wrong

d. Lie to a teacher to cover up something you did?

Very Wrong

Wrong

Bit Wrong

Not Wrong

e. Stay out all night without permission?

Very Wrong

Wrong

Bit Wrong

Not Wrong

f. Lie to your parents or guardians about where you have been or whom you were with?

Very Wrong

Wrong

Bit Wrong

Not Wrong

g. Skip school without permission?

Very Wrong

Wrong

Bit Wrong

Not Wrong

h. Hurt someone badly in a fight?

Very Wrong

Wrong

Bit Wrong

Not Wrong

i. Be a look-out for a drug dealer?

Very Wrong

Wrong

Bit Wrong

Not Wrong

j. Sell drugs if you needed the money?

Very Wrong

Wrong

Bit Wrong

Not Wrong

k. Carry a gun to protect yourself?

Very Wrong

Wrong

Bit Wrong

Not Wrong

The next questions ask about experiences some people have had.

10. During the **past year**, how many times have you:

a. Started a fistfight or shoving match?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

b. Shoplifted from a store?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

c. Damaged or marked up public or private property?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

- d. Lied to a teacher to cover up something you did?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- e. Stayed out all night without permission?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- f. Lied to your parents or guardians about where you have been or who you were with?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- g. Skipped school without permission?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times

- h.** Hurt someone badly in a physical fight so that they had to be treated by a doctor or nurse?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
-
- i.** Carried a gun?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
-
- j.** Been involved in gang fights?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
-
- k.** Been arrested by the police?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times

- l. Seen someone get shot or stabbed?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- m. Carried a blade, knife, or gun in school?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- n. Been suspended from school?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times
- o. Been at school after drinking alcohol?
- 0 Times
- 1 Time
- 2 Times
- 3-4 Times
- 5 or More Times

p. Been high at school from smoking marijuana?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

q. Stolen a motorcycle or car?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

11. During the past year, how many times have you:

r. Pick-pocketed somebody?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

s. Threatened someone seriously or beaten up somebody?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

t. Broken into a house (not an empty house)?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

u. Sold drugs to earn money?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

v. Been in juvenile court because of your behavior?

0 Times

1 Time

2 Times

3-4 Times

5 or More Times

12. My neighbours notice when I am doing a good job and let me know.

NO

no

yes

YES

13. There are people in my neighbourhood who encourage me to do my best.

NO no yes YES

14. There are people in my neighbourhood who are proud of me when I do something well.

NO no yes YES

15. What was your aggregate or average mark last year?

A B C D E F

16. *How wrong do your parents or guardian feel it would be for you to:*

a) drink some beer, wine, or hard liquor (for example vodka, whiskey or gin)?

Very wrong Wrong A little bit wrong

Not wrong at all

b) smoke marijuana or dagga?

Very wrong

Wrong

A little bit wrong

Not wrong at all

c) smoke cigarettes?

Very wrong

Wrong

A little bit wrong

Not wrong at all

17. *How wrong do your parents or guardian feel it would be for you to:*

a) steal anything worth more than R10?

Very wrong

Wrong

A little bit wrong

Not wrong at all

b) draw graffiti, or write on things or draw pictures on buildings or other property
(without the owner's permission)?

Very wrong

Wrong

A little bit wrong

Not wrong at all

c) pick a fight with someone?

Very wrong

Wrong

A little bit wrong

Not wrong at all

18. I think it is okay to take something without asking if you can get away with it.

NO

no

yes

YES

19. I think sometimes it is okay to cheat at school.

NO

no

yes

YES

20. It is all right to beat up people if they start the fight.

NO

no

yes

YES

21. It is important to be honest with your parents or guardian even if they become upset or you get punished.

NO

no

yes YES

22. *How wrong would most adults in your neighbourhood think it was for young people your age:*

a) to use marijuana/ dagga?

Very wrong

Wrong

A little bit wrong

Not wrong at all

b) to drink alcohol?

Very wrong

Wrong

A little bit wrong

Not wrong at all

c) to smoke cigarettes?

Very wrong

Wrong

A little bit wrong

Not wrong at all

These questions ask how you feel about yourself. For each question, tick the box next to the statement that best describes how you feel about yourself.

23. I am as popular with kids my own age as I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

24. I am as good a student as I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

25. I am happy about how much my family likes me.

Strongly disagree

Disagree

Agree

Strongly agree

26. I am happy with the way I look.

Strongly disagree

Disagree

Agree

Strongly agree

27. I am as good at sports / physical activities as I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

28. I am happy with the way I can do most things.

Strongly disagree

Disagree

Agree

Strongly agree

29. I am as good as I want to be at making new friends.

Strongly disagree

Disagree

Agree

Strongly agree

30. I am doing as well in school work as I want to.

Strongly disagree

Disagree

Agree

Strongly agree

31. I am too much trouble to my family.

Strongly disagree

Disagree

Agree

Strongly agree

32. I like my body just the way it is.

Strongly disagree

Disagree

Agree

Strongly agree

33. I wish I was better at sports / physical activities.

Strongly disagree

Disagree

Agree

Strongly agree

34. I sometimes think I am a failure (a loser).

Strongly disagree

Disagree

Agree

Strongly agree

35. I have as many close friends as I would like.

Strongly disagree

Disagree

Agree

Strongly agree

36. I am good enough at maths.

Strongly disagree

Disagree

Agree

Strongly agree

37. I get in trouble too much at home.

Strongly disagree

Disagree

Agree

Strongly agree

38. I feel good about my height and weight.

Strongly disagree

Disagree

Agree

Strongly agree

39. I feel OK about how well I do when I participate in sports / physical activities.

Strongly disagree

Disagree

Agree

Strongly agree

40. I am happy with myself as a person.

Strongly disagree

Disagree

Agree

Strongly agree

41. I am as well liked by other kids as I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

42. I am as good at reading and writing as I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

43. I feel OK about how important I am to my family.

Strongly disagree

Disagree

Agree

Strongly agree

44. I wish I looked a lot different.

Strongly disagree

Disagree

Agree

Strongly agree

45. I am happy about how many different kinds of sports/
physical activities I am good at.

Strongly disagree

Disagree

Agree

Strongly agree

46. I am the kind of person I want to be.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
47. I feel good about how well I get along with other kids.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
48. I get marks that are good enough for me.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
49. I get along as well as I would like to with my family.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
50. I wish it were easier for me to learn new sports / physical activities.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*

51. I often feel ashamed of myself. *Strongly disagree*
Disagree
Agree
Strongly agree
52. I wish my friends liked me more than they do. *Strongly disagree*
Disagree
Agree
Strongly agree
53. I feel good about how good a student I am. *Strongly disagree*
Disagree
Agree
Strongly agree
54. My family pays enough attention to me. *Strongly disagree*
Disagree
Agree
Strongly agree
55. I participate in as many different sports / physical activities as I want to. *Strongly disagree*
Disagree

Agree

Strongly agree

56. I like being just the way I am.

Strongly disagree

Disagree

Agree

Strongly agree

58. I feel good about how much my friends like my ideas.

Strongly disagree

Disagree

Agree

Strongly agree

59. I do as well on tests in school as I want to.

Strongly disagree

Disagree

Agree

Strongly agree

60. I am happy with how much my family loves me.

Strongly disagree

Disagree

Agree

Strongly agree

61. I am as good a person as I want to be.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
-
62. I feel OK about how much other kids like doing things with me.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
-
63. I get too many bad marks on my report cards.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
-
64. I feel good about how much my family cares about my ideas.
- Strongly disagree*
- Disagree*
- Agree*
- Strongly agree*
-
65. I wish I had more to be proud of.
- Strongly disagree*
- Disagree*
- Agree*

Strongly agree

66. I am the kind of person I want to be.

Strongly disagree

Disagree

Agree

Strongly agree

APPENDIX

