

The Association Between Parental Conflict and Adolescent Risk Behaviour: The Role of
Parental Monitoring as a Mediator

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Abstract

Parental conflict can cause numerous adverse outcomes for adolescents, resulting in both short-term and long-term damage. Research suggests that deficient parental monitoring may cause a significant amount of the adverse effects associated with parental conflict. South Africa provides a unique setting for exploring adolescents' experiences of overt parental conflict, given the country's high domestic violence rates. The aim of this study was to contribute to the literature on adolescent risk behaviour and the harms of parental conflict, by exploring the mediating role of deficient parental monitoring as a result of parental conflict. The design of this study was cross-sectional and correlational. The data for this study was collected from students at an all-boys high school in Cape Town ($N = 44$) using a self-report questionnaire. After three multiple regressions were run as a part of the mediation analysis, the results showed that parental conflict significantly predicted more adolescent risk behaviour ($p < .01$) and that the association between parental conflict and less parental monitoring approached significance ($p = .05$). However, parental monitoring did not mediate the association between parental conflict and adolescent behaviour ($p = .37$). The results suggest that future research should explore other possible explanations for the association between parental conflict and adolescent risk behaviour, such as social learning, personality, neuro-developmental changes in puberty and genetic vulnerabilities.

Keywords: Parental conflict; adolescent risk behaviour; parental monitoring; male adolescents; South Africa

Children's prolonged exposure to parental conflict is a significant stressor, which can lead to negative outcomes later in adolescence, such as delinquency and substance abuse (Burns & Dunlop, 2002; Fincham, 2001; Krishnakumar & Buehler, 2000; Vanassche, Sodermans, Matthijs, & Swicegood, 2014). South Africa provides a unique setting for exploring adolescents' experiences of overt parental conflict, which is characterised by physical violence and hostility, given the country's high violence rates (South African Police Services, 2016). In 2012, it was estimated that about 60, 000 children and women were domestically abused monthly worldwide (World Health Organization, 2012). The first national youth victimisation research study conducted in South Africa found that an estimated 41% of youth aged 12 to 22 years were frequently exposed to crime and violence, 22% of which occurred in their households (Leoschut & Kafaar, 2017). The issue of parental conflict and its effects on children raises numerous questions about assessing children for maladjustment, possible interventions and child monitoring (DiClemente et al., 2001; Rothenberg, Hussong, & Chassin, 2017). However, little research has been conducted on how parental conflict results in multiple negative outcomes across a diverse range of children (Fincham, 2001; Krishnakumar & Buehler, 2000).

One way in which parental conflict might lead to adverse outcomes for adolescents is by interfering with parental monitoring (DiClemente et al., 2001). However, only a few studies have explored the relationship between deficient parental monitoring and adolescent risk behaviour in the context of parental conflict (Yap, Pilkington, Ryan, & Jorm, 2014). In addition, there are inconsistencies in the definition of parental monitoring and most of the research has taken place in Western contexts (DiClemente et al., 2001; Jekielek, 1998; Yap et al., 2014). This study aims to examine whether parental monitoring mediates the association between parental conflict and adolescent risk behaviour in the South African context.

Defining Key Variables

Parental conflict is a multidimensional concept that accounts for the frequency, manner of expression, duration, intensity and degree of resolution when analysing the conflict's probable effects and impacts (Krishnakumar & Buehler, 2000). Adverse parental conflict consists of overt, covert and avoidant modes (Krishnakumar & Buehler, 2000). Overt conflict is characterised by hostility, verbal aggression, and physical violence (Buehler et al., 1997; Burns & Dunlop, 2002; Krishnakumar & Buehler, 2000; McClellan, Heaton, Forste, & Barber, 2004). While covert conflict is subtle and characterised by passive-aggressive speech and actions, and avoidant conflict is characterised by an unwillingness to address disagreements and differences (Buehler et al., 1997; Burns & Dunlop, 2002; Krishnakumar &

Buehler, 2000; McClellan et al., 2004). This study focused on the overt conflict mode, specifically because of the prevalence of domestic violence in South Africa (Leoschut & Kafaar, 2017).

For this study, the definition of risk behaviour was taken from Flisher (2007), who refers to it as any behaviour that increases the danger of unfavourable outcomes. These outcomes could be psychological, social or biological, and can cause short and long-term damage (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Flisher, 2007; Li, Stanton, & Feigelman, 2000). Risk behaviour includes violence, reckless driving, suicidal tendencies, sexual activity and substance use (Borawski et al., 2003; Flisher, 2007; Stanton et al., 2000).

Although there is currently no standard definition of parental monitoring, this study focused on the two key aspects most scholars agree on, which include parental knowledge about adolescents and where they spend their recreational time away from home (Damon & Lerner, 2008; DiClemente et al., 2001; Jessor, 1991; Sasson & Mesch, 2014; Yap et al., 2014). Although there is some inconsistency in the concepts, there is a general consensus that parental conflict can affect parenting leading to risky adolescent behaviour (Damon & Lerner, 2008; DiClemente et al., 2001; Jessor, 1991; Sasson & Mesch, 2014; Yap et al., 2014).

Parental Conflict and Adolescent Risk Behaviour

Regardless of whether parents are married or divorced, parental conflict poses a threat to children and can result in negative outcomes (Jekielek, 1998; Juby & Farrington, 2001; Rothenberg et al., 2017; Vanassche et al., 2014). Jekielek (1998) conducted a study investigating the potential effects on children's well-being when exposed to marital disruption combined with parental conflict. Jekielek (1998) found that children whose parents were divorced or separated had better well-being than those residing in hostile marital conditions. In addition, children can be better off after their parents' divorce if it reduces the conflict level (Dronkers, 1999). However, if the parents continue having a relationship characterised by overt conflict even after divorce, their children's well-being can continue to deteriorate (Dronkers, 1999).

Research shows that exposure to parental conflict is a risk factor for adolescents (Cummings, Davies, & Simpson, 1994; DiClemente et al., 2001; Katz & Gottman, 1993; Hale, Fitzgerald-Yau, & Viner, 2014; Simons, Lin, & Gordon, 1998; Yap et al., 2014). A number of studies have found significant associations between parental conflict and adolescent risk behaviour, with an average effect size of about .35, based on 126 effect sizes (Achenbach & Edelbrock, 1987; Buehler et al., 1998; Cummings et al., 1994; Fincham, 2001). For example, a study based on Flemish adolescents found that high parental conflict

results in significant levels of delinquency in males and increased alcohol intake for females (Vanassche et al., 2014). However, the researchers used a cross-sectional design, which does not determine causation (Vanassche et al., 2014). According to Hay (2003), girls tend to experience more feelings of guilt because of parental conflict, which he found was positively associated with self-destructive behaviour. These behaviours included alcohol and drug abuse, although feelings of guilt were negatively associated with delinquency (Hay, 2003). Conversely, because of parental conflict boys tend to react to stressful situations with more physically aggressive behaviour (Davis, Hops, Alpert, & Sheeber, 1998; Morrison & Cherlin, 1995).

One theoretical perspective on family conflict centres on an elaborated stress model, and affirms that prolonged parental conflict can be harmful to the wellbeing of children and adolescents, and can trigger risk behaviours (Kristjansson, Sigfusdottir, Allegrante, & Helgason, 2009; Vandewater & Lansford, 1998). Research has also shown that overt parental conflict, neglect and deficient nurturing can have a severe impact on the physical and mental health of children (Repetti, Taylor, & Seeman, 2002; Wight, Williamson, & Henderson, 2006). A study by Repetti et al. (2002) found that an unstable and unsupportive parental relationship results in risk behaviour in interaction with pre-existing genetic vulnerabilities, such as hippocampal atrophy and chronic hypertension. The combination of parental conflict and pre-existing genetic vulnerabilities can disrupt the stress regulatory system and could result in substance abuse (Repetti et al., 2002). However, Repetti et al. (2002) failed to focus on other familial issues, such as divorce and parental pathology. Moreover, the majority of the literature fails to factor in the role of parental monitoring in relation to risky adolescent behaviour resulting from parental conflict.

Parental Conflict and Deficient Parental Monitoring

The effects of parental conflict can be explained through processes that relate to parent-child relations, such as parental monitoring (Fincham, 2001). In particular, conflict affects three key areas of parenting; these are parental consistency, parental monitoring and parental discipline (Krishnakumar & Buehler, 2000). Disruptions in parent-child monitoring can come as a result of difficult familial environments, characterised by high overt parental conflict (Vanassche et al., 2014; Yap et al., 2014). Krishnakumar and Buehler (2000) assert that parental conflict can result in deficient nurturing, poor monitoring and behavioural control by parents. A study by McClellan et al. (2004) with Colombian adolescents found a significant association between overt conflict and lack of parental monitoring and support, which were then associated with adolescent aggression.

Moreover, a multinational study of parental conflict revealed a consistent pattern indicating that parental conflict negatively interferes with aspects of parenting (Bradford et al., 2004). These aspects include parental monitoring, resulting in adverse social functioning and psychological outcomes for adolescents (Bradford et al., 2004). Lack of parental monitoring caused by parental conflict is a risk factor because of the disruption in familial power relations, especially when coupled with an increase in rejection, lack of intimacy or both (Fincham, 2001). Parents unable to enforce rules and treat their children age-appropriately, due to their conflict, progressively put their children at risk of internalising and externalising problem behaviour, mood swings, academic issues and poor peer relationships (Fincham, 2001).

However, sample details and methodological variations might explain why there are significant variations in estimates of the association between parental conflicts and parenting behaviours (Krishnakumar & Buehler, 2000). In addition, the literature reviewed in this section does not directly focus on adolescent risk behaviour in relation to deficient parental monitoring, which was the mediating factor in this research study.

Deficient Parental Monitoring and Adolescent Risk Behaviour

Neglectful monitoring and a hostile environment characterised by divorce, marital conflict, economic stress and parental psychopathology, have been linked to developmental issues for adolescents (Harold & Conger, 1997; Krishnakumar & Buehler, 2000). More specifically, research has shown that reduced parental monitoring has links to lower self-esteem and increased risk behaviour such as delinquency and substance abuse in adolescents (Damon & Lerner, 2008; Juby & Farrington, 2001; Laird, Pettit, Bates, & Dodge, 2003; Parker & Benson, 2004; Simons et al., 1998). Decreased parental monitoring has been associated with increased adolescent engagement in antisocial behaviours, distress, risky sexual behaviour, depression/withdrawal, anxiety and frequent substance abuse (DiClemente et al., 2001; Harold & Conger, 1997; Shelton & Harold, 2008; Yap et al., 2014).

Sasson and Mesch (2014) found that a lack of parental monitoring and involvement resulted in higher levels of risky online behaviour for adolescents, particularly among older boys. Huebner and Howell (2003) and Wight et al. (2006) both found evidence in their research to support the importance of parental monitoring, especially in relation to reduced sexual risk-taking behaviours in adolescents. Lack of parental monitoring was linked to reduced condom use and increased sexual partners (Dittus et al., 2015; Wight et al., 2006). A study by DiClemente et al. (2001) linked reduced parental monitoring to health risk behaviour and adverse biological outcomes. However, this study utilised a cross-sectional design rather

than a longitudinal design, which assists in determining the direction of effects (DiClemente et al., 2001). In contrast, aggression and anti-social behaviour in a Colombian adolescent sample were negatively associated with high levels of parental monitoring (McClellan et al., 2004).

Stättin and Kerr (2000) argued that the beneficial outcomes researchers often associated with high levels of parental monitoring may have more to do with adolescents willingly disclosing information to their parents than parental monitoring itself. Thus, it should be attributed to the parent-adolescent relationship (Stättin & Kerr, 2000). Conversely, research has also shown that parental monitoring acts as a greater protective buffer for adolescent risk behaviour than information or knowledge about their children's friends (Fletcher, Steinberg, & Williams-Wheeler, 2004).

Currently, there is a significant amount of literature in agreement that parental conflict and adolescent risk behaviour are related, and that parental conflict is associated with deficient parental monitoring (Huebner & Howell, 2003; Jekielek, 1998; Juby & Farrington, 2001; Vanassche et al., 2014; Yap et al., 2014). In addition, deficient parental monitoring and adolescent risk behaviour show clear linkages (DiClemente et al., 2001; Parker & Benson, 2004; Simons et al., 1998). Krishnakumar, Buehler and Barber (2003) found that for European-American participants, parental conflict was associated with risky adolescent behaviour because of less parental monitoring. However, there is a gap in the literature for empirically examining the associations between parental conflict and adolescent risk behaviour by linking it to deficient parental monitoring, in other contexts.

Aims and Objectives

The aim of this research study was to contribute to the literature on adolescent risk behaviour and the harms of parental conflict, by exploring the mediating role of deficient parental monitoring caused by parental conflict within the South African context. The assumption was that this research study would shed more light on the harm of overt parental conflict specifically. In addition, the research study was designed to deepen the understanding of the dynamics involved between parental monitoring and adolescent risk behaviour. The hypothesis of this study was that there is an association between parental conflict and adolescent risk behaviour and it is mediated by parental monitoring. The mediation effect is illustrated in Figure 1 below.

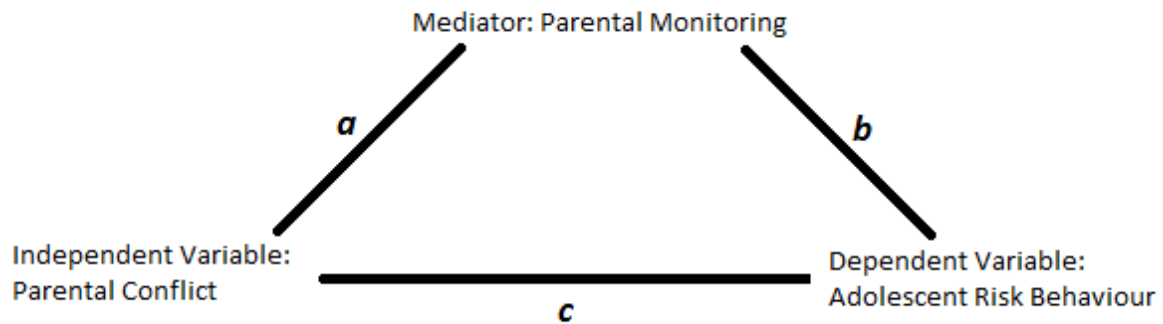


Figure 1. Diagram of the mediation model

In addition, based on the principals of mediation analysis and past research three specific hypotheses were tested in relation to the main hypothesis:

H_1 : Higher levels of parental conflict will predict more adolescent risk behaviour.

H_2 : Higher levels of parental conflict will predict less parental monitoring.

H_3 : Once parental monitoring is added to the model, it will either reduce the effect or there will be no effect of parental conflict on adolescent risk behaviour.

Methods

Design and Setting

The design of this study was cross-sectional and correlational. The data for this study were collected from a convenience sample of adolescent students at an all-boys high school in Cape Town in the Western Cape province of South Africa. The data collection was done during the student's life orientation class on school grounds, in a classroom of the school's choosing and over the course of two weeks, using a self-report questionnaire.

Participants

Participants in this study were recruited from an English medium boy's high school in Cape Town with diverse ethnic groupings. This study aimed to recruit at least 41 adolescents based on a G^* power calculation, using an effect size of .35 as determined by a meta-analysis of 126 samples of overt parental conflict and adolescent risk behaviour (Buehler et al., 1997). In addition, the analysis used a power level of .81 and an alpha level of .05 based on Bradford et al. (2004).

The participants were predominantly white ($n = 26$), from grade 9 ($n = 22$), aged 15 years ($M = 15.02$, $SD = .70$) and lived with both parents ($M = 1.45$, $SD = 1.13$). With regards to gender, 43 identified as male and 1 identified as other (see Table 1). At the end of data collection, 50 participants had completed the assessment questionnaires. However, as the study required the measure of parental conflict, those without both mother and father alive and present in their lives or those without two guardians/parental figures were eliminated from the study. This exclusion criterion brought the sample size down to 44 adolescents, although this is still above the minimum required according to the G^* power calculation.

Table 1.

Frequencies and Percentages for Demographic Characteristics of Participants

Variable	<i>n</i>	%
Gender		
Male	43	97.7
Other	1	2.3
Race		
Black	2	4.5
White	26	59.1
Indian	4	9.1
Coloured	11	25.0
Other	1	2.3
Grade		
8	8	18.2
9	22	50.0
10	14	31.8
Age		
13	1	2.3
14	7	15.9
15	26	59.1
16	10	22.7

Inclusion and exclusion criteria. Inclusion criteria for students were: a minimum age of 13 years and a maximum of 17 years, based on previous research by Barber, Stolz, Olsen,

Collins and Burchinal (2005) on adolescents. Parents/guardians had to sign consent forms (Appendix A) for their children to be included in the study, while the adolescent participants had to provide assent to participate in the study. In addition, the study also required that participants had at least two parental figures or guardians alive and present in their lives for their data to be used for the key parental conflict measure.

Measures

An adapted version of the Youth and Family Project questionnaire was utilised to collect the data for all the variables in this research study (Appendix B) (Barber et al., 2005). This questionnaire has previously been used in multiple cultural contexts, including South Africa (Barber et al., 2005).

Demography. The gender, racial/population group and age of the participants were assessed using three items (Barber et al., 2005). Age was measured as a continuous variable, while gender and racial/population group were analysed using dummy variables (boys = 1, girls = 2, other = 3; black = 1, Indian = 2, white = 3, coloured = 4, other = 5). In addition, information about family structure was collected by asking whom the participant lives with, for example, “both my mother and father in the same household” and “my father and stepmother”.

Parental conflict. Parental conflict was measured using four items from Buehler and associates’ parental conflict measures (Buehler et al., 1997; Buehler et al., 1998). As this study only focused on conflict, only the four overt conflict items were used, on which adolescents rated the frequency with which they were exposed to overt conflict between their parents. Examples include “insult each other” and “threaten each other”. Each item was scored on a 4-point Likert scale, ranging from 1 meaning “never” to 4 meaning “very often”, with higher scores indicating more overt conflict. Previous literature supports the validity of using youth assessments of parental conflict (Achenbach & Edelbrock, 1987; Buehler et al., 1997; Buehler et al., 1998).

Adolescent risk behaviour. Risky behaviour was measured using a 10-item inventory from the Youth and Family Project questionnaire (Barber et al., 2005). Adolescents rated themselves on items relating to teenage drinking, violence and substance abuse. The items included “have you ever hit or threatened to hit someone” and “have you ever used tobacco”. Brown, Mounts, Lamborn and Steinberg (1993) reported that the scale had an internal consistency alpha of .86, based on the original validation sample. Participants were first asked if they have ever engaged in various types of risk behaviour and, if yes, they were asked to state how many times they have done so in the preceding 6 months. Each risk behaviour was

scored according to the number of times participants engaged in the behaviour, on a scale ranging from 0 to 9, with an addition blank box for participants to specify the exact number if the behaviour was performed over 9 times (Buehler et al., 1997; Buehler et al., 1998).

Parental monitoring. Parental knowledge of youth behaviour was measured using an eight-item scale frequently used in family research with adolescents; the scale had an internal consistency alpha of .80 (Brown et al., 1993). These items are considered reliable measurements of parental monitoring, although contemporary interpretations and revisions prefer referring to it as parental knowledge (Barber et al., 2005; Crouter & Head, 2002; Kerr & Stattin, 2000; Stattin & Kerr, 2000). Adolescents responded on a 3-point Likert scale from 1 meaning “doesn't know” to 3 meaning “knows a lot” with high scores indicating high levels parental monitoring, with questions concerning knowledge of who their friends are and how they spend their money. The measure utilised separate scales for mothers and fathers.

Procedure

I selected an easily-accessible high school from the Western Cape Education Department's (WCED) online page. Following this, I took note of the contact details of the school staff available on the website. The surveys that were used in this study are available only in English, so the high school was chosen in part on the basis that English is the language of instruction.

Once ethical clearance was granted and the WCED granted me permission to conduct research in their schools, I contacted the school principal, requesting permission to sample the students. The school's principal approved and referred me to the school counsellor, with whom I liaised. I collected the data during August 2017, during the time allocated for the Life Orientation class. First, I visited the high school on three occasions, and I gave an overview of my study to the grade 8, 9 and 10 students respectively. Then I invited students to participate. Those interested in joining the study were given information sheets and informed consent forms (Appendix A), to be signed by their parents/guardians.

The following week I returned to the school on three different days to collect data from those who had signed consent forms. The participating adolescents were given their own assent forms on the first page of the adapted Youth and Family Project questionnaire (Appendix B). The questionnaire was then administered to the adolescents, who took no more than 15 minutes to complete it. After completion, the participants were debriefed and thanked for their participation.

Ethical Considerations

Ethical approval was obtained from a University of Cape Town Research Ethics Committee, reference number PSY2017-024 (Appendix C). Approval to conduct the study was also granted from the WCED, reference number 20170706-2721 (Appendix D).

Voluntary Participation, Confidentiality and Informed Consent. Written informed consent was obtained from the parents of students interested in participating in the study, and the adolescents received their own individual assent forms on the first page of their assessment questionnaires. Comprehensive information sheets were presented to potential adolescent participants, which outlined the procedures and requirements for the study. These information sheets were read to the students, with a time allocation for any questions or concerns, and students were provided with copies to give to their parents/guardians. Both students and their parents were informed that the students' participation in this study was voluntary and that they could drop out of the study whenever they wished without being penalised. Furthermore, it was explained that the assessment was not part of a class requirement and it would not affect any of their school marks or grades should they decide not to participate in the research study. The students and their parents were also informed that their children's anonymity will be maintained, as their data was assigned numbers, which were used instead of their names.

Risks and Benefits. Participation in the study involved minimal risk. Similar research projects have been conducted in South Africa with no notable adverse outcomes for participants (Bradford et al., 2004). The questionnaire utilised in this study was relatively quick, straightforward and simple. Before the questionnaire was administered a rapport was built with students to allow them to feel free to ask questions, which they did. In addition, the adolescents in the study did not benefit directly from participation.

Debriefing. All adolescent participants were thanked at the end of the assessment, and given the opportunity to ask any questions they may have. If the participants and/or their parents had any further questions, opinions, suggestions or concerns with regards to this study, all the necessary contact details of the primary researchers were made available to them. The participants were also provided with the LifeLine/Childline telephone number for the Western Cape or encouraged to contact their school counsellor if they had any concerns about the issues raised in the study.

Data analysis

The data was analysed using the SPSS statistical software package. The aim of the analysis was to create a model around the study's hypotheses using multiple regression

analysis (MRA). The model was carried out in accordance with Baron and Kenny's (1986) approach to MRA and aimed to establish whether parental monitoring plays a mediating role between parental conflict and adolescent risk behaviour.

Baron and Kenny (1986) recommend a series of regression models to help test and establish links between the proposed mediator and other variables. The first involves regressing the dependent variable on the independent variable; the second involves regressing the mediator on the independent variable; and third, regressing the dependent variable on both the independent variable and the mediator (Baron & Kenny, 1986). The final test to be run should be the Sobel test, to examine whether the mediator carries the influence of the independent variable to the dependent variable (Baron & Kenny, 1986; Goodman, 1960; MacKinnon, Warsi, & Dwyer, 1995; Sobel, 1982).

To establish a mediating effect, certain conditions are required; firstly, the independent variable should have a significant effect on the mediator for the first model; in addition, the second model should show an effect between the independent variable and the dependent variable (Baron & Kenny, 1986). Lastly, the third model should show an effect between the mediator and the dependent variable (Baron & Kenny, 1986). Assuming all the three conditions hold, then the effect of the independent variable on the dependent variable should be more in the second model than in the third (Baron & Kenny, 1986). If the independent variable does not have any significant effect on the dependent variable when the mediator is included in the model, then there is a perfect mediation (Baron & Kenny, 1986).

Results

Descriptive statistics and Cronbach's alpha. First, the descriptive statistics, Cronbach's alpha and histograms were run to check the data for homoscedasticity, internal consistency and normality, skew/kurtosis and outliers. An inspection of these tests found no significant violations of the assumptions, and model diagnostics revealed no problematic outliers (Descriptive statistics are presented in Table 2). The Cronbach's alpha results showed that parental conflict ($\alpha = .75$) and parental monitoring ($\alpha = .77$) had high internal consistencies. Although, adolescent risk behaviour ($\alpha = .37$) has a low internal consistency this was expected based on the questionnaire had assessed a wide range of risk behaviours, not all directly related. In addition, after excluding the six participants based on a lack of parental information, there was no more missing data. Thus, the regression followed.

Table 2.
Descriptive Statistics for Parental Conflict, Adolescent Risk Behaviour and Parental Monitoring

	<i>n</i>	<i>M</i>	<i>SD</i>
Parental conflict	44	6.34	2.21
Adolescent risk behaviour	44	9.45	11.08
Parental monitoring	44	24.52	3.72

Note. *SD* = standard deviation

Correlations. Next, Pearson correlations were run to inspect the inter-correlations between the variables. The results showed that parental conflict was significantly positively correlated with adolescent risk behaviour and negatively correlated with parental monitoring as hypothesised (see Table 2).

Table 2.
Inter-correlations between Parental Conflict, Adolescent Risk Behaviour and Parental Monitoring

Variable	Parental Conflict	Adolescent Risk Behaviour
Parental Conflict	-	
Adolescent Risk Behaviour	.46**	-
Parental Monitoring	-.30*	-.25*

* $p < .05$. ** $p < .01$

Mediation Analysis. Table 3 contains the results of the regression analyses used to test the hypotheses for the mediation effect.

Table 3.

Regression coefficients for the mediation effect test

Testing steps in the mediation model	β	Std. Error	95% CI	P
Testing step 1 (Path c)				
Independent variable: Parental conflict				
Dependent variable: Adolescent risk behaviour	.46	.69	.89, 3.67	.00**
Testing step 2 (Path a)				
Independent variable: Parental conflict				
Mediator variable: Parental monitoring	-.30	.25	-1.00, .00	.05
Testing step 3 (Path b and c)				
Independent variable: Parental conflict				
Dependent variable: Adolescent risk behaviour	.42	.72	.63, 3.55	.01**
Mediator variable: Parental monitoring	-.13	.43	-1.25, .48	.37

Note. CI = confidence interval

* $p < .05$. ** $p < .01$

Parental conflict and adolescent risk behaviour. Before any regression was run the data was centred to decrease multicollinearity and facilitate the interpretation of the regression results. Then the first multiple regression was run between parental conflict and adolescent risk behaviour to establish a relationship. Parental conflict accounted for significant variance in adolescent risk behaviour, $R^2 = .21$, $F(1, 42) = 10.99$, $p < .01$ (see Table 3).

Parental conflict and parental monitoring. The second multiple regression was between parental conflict and parental monitoring, also to establish a relationship. Parental conflict accounted for marginally significant variance in parental monitoring, $R^2 = .09$, $F(1, 42) = 4.05$, $p = .05$.

Parental conflict, parental monitoring and adolescent risk behaviour. The third regression was between parental conflict, parental monitoring and adolescent risk behaviour, to determine the partialled relationship between parental monitoring and adolescent risk behaviour. Parental conflict still significantly predicted adolescent risk behaviour, but

parental monitoring did not, $R^2 = .22$, $F(2, 41) = 5.88$, $p < .01$. Moreover, the regression coefficient for parental monitoring was not significant, thus the Sobel test was not run to interpret the results.

Discussion

This study investigated the association between parental conflict and adolescent risk behaviour with parental monitoring as a mediating factor, within the South African context. It was hypothesised that high levels of parental conflict would predict more adolescent risk behaviour and that high levels of parental conflict would predict less parental monitoring. Furthermore, it was theorised that the relationship between parental conflict and adolescent risk behaviour would be reduced when parental monitoring was added to the model. The study was conducted on predominantly male 15-year olds in grade 9, living with both parents, enrolled at a boys-only high school in Cape Town. Based on the results it can be concluded that only two out of the three hypotheses were supported. The first hypothesis stating that parental conflict would predict adolescent risk behaviour was tested first to establish a relationship between the independent variable and the dependent variable (Path c in Figure 1). Parental conflict was found to be a significant predictor of more adolescent risk behaviour ($p < .01$). This is consistent with previous research linking parental conflict to adolescent risk behaviour (Jekielek, 1998; Juby & Farrington, 2001; Morrison & Cherlin, 1995; Rothenberg et al., 2017; Vanassche et al., 2014).

The second hypothesis stating that parental conflict would predict less parental monitoring was tested second to establish a relationship between the independent variable and mediator variable (Path a in Figure 1). Parental conflict was found to be a marginally significant predictor of less parental monitoring ($p = .05$). A number of previous studies have found that increased parental conflict leads to deficient parental monitoring (Bradford et al., 2004; Krishnakumar et al., 2003; Vanassche et al., 2014; Yap et al., 2014). Although the results of this study support previous research by showing a negative correlation between parental conflict and parental monitoring, the strength of the association was weaker than that found in similar research.

Lastly, the third hypothesis stated that once parental monitoring was added to the equation, it would either reduce the effect or there would be no effect of parental conflict on adolescent risk behaviour (Paths b and c in Figure 1). This hypothesis was not supported as parental monitoring had no significant mediating effect on the association between parental conflict and adolescent risk behaviour ($p = .37$). Parental conflict still significantly predicted adolescent risk behaviour ($p < .01$) when parental monitoring was added to the model. These

results contradict those of Krishnakumar et al. (2003), although few studies have specifically endeavoured to explore the linkages between parental conflict and adolescent risk behaviour through the mediating effect of less parental monitoring.

The results of this study suggest the need to identify and study factors other than less parental monitoring that might help to explain the observed relationship between parental conflict and adolescent risk behaviour. These factors may include social learning, as research has shown that family, peer and community factors can significantly influence a wide range of risk behaviours (Metzler, Noell, Biglan, Ary, & Smolkowski, 1994; Monahan, Rhew, Hawkins, & Brown, 2014; Youngblade et al., 2007). In addition, aggressive behaviours learnt in childhood are predictive of later substance abuse and delinquent behaviour (Ettetal & Ladd, 2015; O'Donnell, Hawkins, & Abbott, 1995). Furthermore, individual personality, neuro-developmental changes in puberty and genetic vulnerability may also be contributing factors to adolescent risk behaviour (Blum, McNeely, & Nonnemaker, 2002; Gullone & Moore, 2000; Keshavan, Giedd, Lau, Lewis, & Paus, 2014; Marshall, 2014; Masten, 2004; Repetti et al., 2002; Steinberg, 2008).

Study Limitations and Recommendations

This study had several limitations, which will be outlined concurrently with recommendations for future research. First, the study was limited by time and logistic constraints of the UCT Honours course. As a result, a cross-sectional design using multiple regression analysis was used to identify significant relationships. For determining the direction of effects, the ideal research design would have been a longitudinal design or for causation, an experimental design, based on previous research (DiClemente et al., 2001).

It should be acknowledged that the racial and socio-economic demographics of this sample were skewed. This can largely be attributed to the 1950 Group Areas Act instituted by the Apartheid government (Goldberg, 1993). This policy effectively segregated urban areas according to racial groupings, and prohibited non-whites from living in certain areas (Goldberg, 1993). Given this context, the residents of the Southern Suburbs of Cape Town are still predominantly English-speaking. Moreover, it can be assumed that the participants are largely from middle-class or upper-class families, given that the school fees of the participating school are among the highest in Cape Town (Govender, 2016). Additionally, the study only used participants from a single school and all but one of the participants identified as male.

In addition, the sample size was relatively small, although still above the minimum required for sufficient power. Consequently, this is a niche study that cannot be generalised to

the wider South African population. Future studies should endeavour to obtain a representative sample by collecting data from both boys and girls in a diverse range of schools from different socioeconomic areas.

Furthermore, parental self-report questionnaires should also be used in future research, to be contrasted with adolescent self-reports in novel ways, to more accurately gauge the key measures (Barber et al., 2005). Besides this, the questionnaire adapted from Barber et al. (2005) was ambiguous in some parts as critiqued by the adolescents who used it in this study, so it may need to be updated and edited for future use. Future studies may also benefit from using a mixed method design by combining qualitative interviews of parents and adolescents as well as using self-reports.

Significance of the Study

Despite the sample size of this study being small and unrepresentative of the general South African population, the results nevertheless contribute to the research on parental conflict, adolescent risk behaviour and parental monitoring. Although the main hypothesis of this study was not supported, aspects of the results do support previous research in suggesting that parental conflict might have adverse effects on both parenting and adolescent behaviour. Thus, this niche study could help increase awareness amongst school staff and parents of the potential dangers and adverse outcomes of exposing adolescents to overt parental conflict. Future research should focus on increasing the understanding of the associations between parental conflict and adolescent risk behaviour by further analysing the processes and mechanisms through which they occur.

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Appendix A
Information Sheets and Parent Consent Form

PARENT/GUARDIAN INFORMATION SHEET

Dear Sir or Madam,

My name is Lombe Michael Kasanda and I am conducting research on the role of family relationships in adolescent risk behaviour, as part of my Honours project at the University of Cape Town. Before you decide whether you want your child to be a part of the study, it is important for you to understand why the research is being done and what it will involve.

The following information has been read and explained to your child carefully.

- Your child has been given the opportunity to ask any questions, but if you have any questions of your own please refer to the contact list at the end of the information sheet.
- The current research study is being done so that we can better understand how to improve the lives of adolescents and families in South Africa. Specifically, we are interested in your child's views on family relationships, and adolescent problem behaviour.

Who can participate?

- To participate, you will also have to provide consent to confirm you are willing to let your child take part in this specific research study.

Is participation compulsory?

- It is not compulsory. It is up to you to decide if you want your child to take part in the study. If you do decide to let your child participate in the study, you will need to sign the accompanying consent form.
- It should also be noted that your child can stop taking part in the study at any time without giving a reason. There will be no penalty for doing this.

- If you decide not to let your child participate the assessment is not part of a class requirement and will not affect any of their school marks or grades, or their relationship with the school in any way.

What would happen if I consent to my child taking part?

- Firstly, you and your child will be given a chance to ask any questions that you have about the study.
- When you understand everything about the study, you will be asked to sign a consent form agreeing for your child to take part in the study.
- It is up to you to decide whether you want your child to take part, but you must sign the consent form in order for your child to participate.
- After you have signed the consent form, we will set a date with the school to perform the assessment, in a room assigned to us by school staff.
- The questionnaire your child will be asked to complete will have an assent form for them to sign if they wish their data to be used.
- The questionnaire will consist of a series of questions to assess family relationships and adolescent risk behaviour.
- The questionnaire will take about 30 minutes to complete. Following this, your child will be thanked for their participation.
- The results of the questionnaire will be stored on a password-protected computer that only those involved in the research will have access to.
- This means that no one else will ever be able to see your child's score on the questions. Your child's answers will not be written down anywhere, they will only be in the database on a computer protected by a password.

What will happen to the information my child provides?

- Participation in this study means that you share some personally identifying information with us such as your child's name on the consent form. However, your child's name will not be recorded on the questionnaire, which will have its own assigned number.
- This information will never be given to others. It will only be used for the purpose of the study. Your child will be given a unique study number so that his/her name will not be known by anyone outside of the research team.

- Only the research team will have access to this information, and it will not be saved or written down anywhere else.
- The research team will not be able to match your child's name with his/her answers, so there will be no way to identify your child.
- All of the information will be stored in a locked filing cabinet and computer protected by a password. Only research staff working on this study can look at this information.

What will happen to the results of the research?

- Any research publication will not identify you or your child individually. We will only discuss results that have been averaged over the whole group of young people who participate. After the study is finished, the report will be made available to the school.

Who has reviewed the study?

- This study has received ethical approval from the University of Cape Town Psychology Department Research Ethics Committee (reference number PSY2017-024). The Western Cape Education Department (WCED) has also approved this study (reference number 20170706-2721).

Who is responsible for this study?

- Mr Lombe Kasanda is the Principal Investigator. He can be reached on (074) 258 4847 or lmkasanda@gmail.com.
- Lauren Wild, from the University of Cape Town, is Mr Kasanda's supervisor. Prof. Wild can be reached on (021) 650 4607 or lauren.wild@uct.ac.za.
- You can reach Mrs Rosalind Adams at the University of Cape Town on (021) 650 3417 or rosalind.adams@uct.ac.za if you have any complaints about the study or members of the research team.

PARENT CONSENT FORM

You will be given a copy of the information sheet to keep. It is your choice whether your child is part of this study or not. Also, your child can decide to stop being a part of this study at any time without any consequences.

If any of the adolescents wish to stop at any time, they would only have to tell a member of the research team.

1. Have you read or been read this information and understood the information given here?

Yes ___ No ___

2. Do you understand that your child can withdraw from the study without penalty at any time by telling any member of the research team?

Yes ___ No ___

3. Do you understand who will be able to see your child's information, how this information will be stored, and what will happen to the information at the end of the study?

Yes ___ No ___

If you think of any questions in the future, please refer to the contact list in the information sheet. Please indicate here with your name or signature if you understand what is involved and agree to participate:

Date: _____

Parent's/Guardian's Agreement: _____

Researcher's Signature: _____

ADOLESCENT INFORMATION SHEET

Hello,

My name is Lombe Michael Kasanda and I am conducting research on the role of family relationships in adolescent risk behaviour, as part of my Honours project at the University of Cape Town. Before you decide whether you want to be a part of the study, it is important for you to understand why the research is being done and what it will involve.

The following information will be read and explained to you carefully.

- You will be given a chance to ask any questions that you may have.
- The current research study is being done so that we can better understand how to improve the lives of adolescents and families in South Africa. Specifically, we are interested in your views on family relationships, and adolescent problem behaviour.

Who can participate?

- Assuming you have received parental consent, you will also need to sign the assent form that will be attached to the questionnaire later.

Is participation compulsory?

- It is not compulsory. It is up to you to decide if you want to take part in the study.
- It should also be noted that you can stop being a part of the study at any time without giving a reason. There will be no penalty for doing this.
- If you decide not to participate the assessment is not part of a class requirement and will not affect any of your school marks or grades, or their relationship with the school in any way.

What would happen if I take part?

- Firstly, you will be given a chance to ask any questions that you have about the study.
- When you understand everything about the study, you will be asked if you are interested in participating. Those interested will be given separate information sheets for their parents/guardians to read and a consent form for your parent/guardian to sign.
- It is up to your parent/guardian to decide whether they want you to take part, and they must sign the consent form for you to participate.

- After your parent/guardian has signed the consent form, we will set a date with the school to perform the assessment, in a room assigned to us by school staff.
- The questionnaire you will be asked to complete will have an assent form for you to sign if you wish your data to be used.
- The questionnaire will consist of a series of questions to assess family relationships and adolescent behaviour.
- The questionnaire will take about 30 minutes to complete. Following this, you will be thanked for your participation.
- The results of the questionnaire will be stored on a password-protected computer that only those involved in the research will have access to.
- This means that no one else will ever be able to see your score on the questions. Your answers will not be written down anywhere, they will only be in the database on a computer protected by a password.

What will happen to the information I provide?

- Participation in this study means that you share some personally identifying information with us such as your name in the parent consent form. However, your name will not be recorded on the questionnaire, which will have its own assigned number. We will not be able to match your questionnaire to your name, so your identity will remain secret.
- This information will never be given to others. It will only be used for the purpose of the study.
- Only the research team will have access to this information, and it will not be saved or written down anywhere else.
- The research team will protect your personal information and comply with all applicable laws.
- All of the information will be stored in a locked filing cabinet and computer protected by a password. Only research staff working on this study can look at this information.

What will happen to the results of the research?

- Any research publication will not identify you individually: it will only describe the average results of everyone who completes a questionnaire. After the study is finished, the results will be made available to the school.

Who has reviewed the study?

- This study has received ethical approval from the University of Cape Town Psychology Department Research Ethics (reference number PSY2017-024). The Western Cape Education Department (WCED) has also approved this study (reference number 20170706-2721)..

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- Lauren Wild, from the University of Cape Town, is Mr Kasanda's supervisor. Prof. Wild can be reached on (021) 650 4607 or lauren.wild@uct.ac.za.
- You can reach Mrs Rosalind Adams at the University of Cape Town on (021) 650 3417 or rosalind.adams@uct.ac.za if you have any complaints about the study or members of the research team.
- If you would like to talk to somebody about any problems you may be experiencing with your family relationships or risk behaviour, please call Lifeline/Childline at (021) 934 4822.

Appendix B
Adapted Youth and Family Project Questionnaire

ASSENT FORM

It is your choice whether you want to be a part of this study or not. Also, you can decide to stop being a part of this study at any time without any consequences.

If you wish to stop at any time, you would only have to tell a member of the research team.

1. Have you read or been read this information and understood the information given here?

Yes ___ No ___

2. Do you understand that you can withdraw from the study without penalty at any time by telling any member of the research team?

Yes ___ No ___

3. Do you understand who will be able to see your information, how this information is stored, and what happens to the information at the end of the study?

Yes ___ No ___

If you think of any questions in the future, please refer to the contact list in the information sheet. Please indicate here with your name or signature if you understand what is involved and agree to participate:

Date: _____

Child's Agreement: _____

Researcher's Signature: _____

INSTRUCTIONS

Please read every question carefully and answer as honestly as possible. There are no right or wrong answers to any of these questions. We are interested only in what you think and feel. Remember, that your answers are completely confidential. No one will ever know what your answers are. Most of the questions ask you to mark a number for the best answer.

MARKING INSTRUCTIONS

- Use an HB pencil only.
- Do not use ink, ballpoint, or felt tip pens.
- Make solid marks drawing a circle around the relevant response (or mark it with a cross).
- Erase cleanly any marks you wish to change.

**Remember there are no right or
wrong answers.
Just mark whatever you think or feel.**

A	HERE ARE SOME INTROUCTORY QUESTIONS.
----------	---

Please fill in blanks or mark the right numbers.

1. What is your sex?				3. With which racial/population group do you identify?			
Male	1	Female	2	Other	3		
2. How old are you				Black	1	White	2
<input style="width: 100%; height: 20px;" type="text"/>				Indian	3	Coloured	4
				Other	5		
4. Which parents or guardians do you live with now: (Mark one)							
1	Both my mother and father in the same household				5	My father and stepmother	
2	Only my mother				6	Some of the time in my mother's home and some in my father's	
3	My mother and stepfather				7	Other relatives (aunt, uncle, grandparents, etc.)	
4	Only my father				8	Guardian or foster parent who is not a relative	

B	HERE ARE SOME QUESTIONS ABOUT YOUR PARENTS.
----------	--

1. How much does your mother really know...

(Mark one answer for each)

	DOESN'T KNOW	KNOWS A LITTLE	KNOWS A LOT
a. Who your friends are?	1	2	3
b. Where you go at night?	1	2	3
c. How you spend your money?	1	2	3
d. What you do with your free time?	1	2	3

e. Where you are most afternoons after school?	1	2	3
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2. How much does your father really know...

(Mark one answer for each)

	DOESN'T KNOW	KNOWS A LITTLE	KNOWS A LOT
a. Who your friends are?	1	2	3
b. Where you go at night?	1	2	3
c. How you spend your money?	1	2	3
d. What you do with your free time?	1	2	3
e. Where you are most afternoons after school?	1	2	3

3. How would you rate your relationship with your mother? (Mark the number that best describes your relationship)

Poor \longleftrightarrow Excellent

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. How would you rate your relationship with your father? (Mark the number that best describes your relationship)

Poor \longleftrightarrow Excellent

1	2	3	4	5	6	7
---	---	---	---	---	---	---

5. In general, how do you and your mother make decisions?

a	She tells me just what to do
b	We discuss it and then we decide together
c	She usually lets me decide by myself

6. In general, how do you and your father make decisions?

a	He tells me just what to do
b	We discuss it and then we decide together
c	He usually lets me decide by myself

7. How often do you take part in family decisions that concern you?

a	Never	d	Often
b	Seldom	e	Always
c	Sometimes		

8. How often do you think you should take part in family decisions that concern you?

a	Never	d	Often
b	Seldom	e	Always
c	Sometimes		

C HERE ARE SOME QUESTIONS ABOUT THINGS SOME PEOPLE DO.

1. When your mother and father disagree, how often do they do the following in front of you (so you can see or hear)? (Mark one number for each)

	NEVER	ONCE IN A WHILE	FAIRLY OFTEN	VERY OFTEN
a. Threaten each other?	1	2	3	4
b. Yell at each other?	1	2	3	4
c. Insult (show disrespect for) each other?	1	2	3	4
d. Call each other names?	1	2	3	4

D	FINALLY, HERE ARE SOME QUESTIONS ABOUT YOUR BEHAVIOUR.
----------	---

1. Have you ever purposely damaged or destroyed property?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
--------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--

If more please specify



2. Have you ever used alcoholic beverages, beer, wine or spirits?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
--------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--

If more please specify



3. Have you ever stolen or tried to steal something of low value?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
--------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--

If more please specify



4. Have you ever run away from home?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
--------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--

If more please specify



5. Have you ever stolen or tried to steal things of high value?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
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If more please specify



6. Have you ever been involved in gang fights?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
--------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--

If more please specify



7. Have you ever used dagga?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
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If more please specify



8. Have you ever hit or threatened to hit someone?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
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If more please specify



9. Have you ever used hard drugs such as cocaine, and LSD?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
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If more please specify



10. Have you ever used tobacco?

1	Yes
2	No

If Yes, how many times have you done this in the past six months?

Times	0	1	2	3	4	5	6	7	8	9	
-------	---	---	---	---	---	---	---	---	---	---	--

If more please specify



This study has asked you to talk about some very personal things about your life and we appreciate your honesty very much in answering these questions. Your answers will be kept completely private and will not be shared with someone.

Some students have a hard time with feelings about themselves or they get involved in dangerous behaviours. If you are concerned about yourself and feel like to have some help with any of the problems that were discussed in this study, please call Lifeline/Childline at (021) 934 4822 or contact the school counsellor.

Thank You Very Much!

Appendix C
Ethical Clearance Form

UNIVERSITY OF CAPE TOWN



Department of Psychology

University of Cape Town, Rondebosch 7701 South Africa
Telephone: (021) 650 3417
Fax No. (021) 650 4104

04 July 2017

Lombe Kasanda
Department of Psychology
University of Cape Town
Rondebosch 7701

Dear Lombe

I am pleased to inform you that ethical clearance has been given by an Ethics Review Committee of the Faculty of Humanities for your study, *The Association Between Parental Conflict and Adolescent Risk Behaviour: The Role of Parental Monitoring as a Mediator*. The reference number is PSY2017-024.

I wish you all the best for your study.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Floretta Boonzaier'.

Floretta Boonzaier
Associate Professor
Ethics Review Committee

University of Cape Town
*PSYCHOLOGY DEPARTMENT
Upper Campus
Rondebosch

Appendix D

Approval to Conduct Research Form

Directorate: Research

Audrey.wyngaard@westerncape.gov.za
 tel: +27 021 467 9272
 Fax: 0865902282
 Private Bag x9114, Cape Town, 8000
 wced.wcape.gov.za

REFERENCE: 20170706 –2721

ENQUIRIES: Dr A T Wyngaard

Mr Lombe Kasanda
 26 Rondebosch Oaks
 Albion Road
 Rondebosch
 7700

Dear Mr Lombe Kasanda

RESEARCH PROPOSAL: THE ASSOCIATION BETWEEN PARENTAL CONFLICT AND ADOLESCENT RISK BEHAVIOUR: THE ROLE OF PARENTAL MONITORING AS A MEDIATOR

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **23 July 2017 till 29 September 2017**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number?
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000

We wish you success in your research.

Kind regards.

Signed: Dr Audrey T Wyngaard
 Directorate: Research
 DATE: 10 July 2017