

Dynamics of Gender, Age, Father Involvement and Adolescents' Self-harm and Risk-taking Behaviour in South Africa.

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Abstract

While psychological literature show that risky and self-harm behaviours are high among adolescents, unfortunately, many studies do not look at how father involvement (FI) among adolescents interplay with age and gender to influences adolescent risky and self-harm behaviours. Using a cross-sectional design, data was collected from 479 High School Learners in a predominant black Secondary School community in North West Province, South Africa. Of the 479, (299 [62.4%] were males and 180 [37.67%] were females. The average age of the respondents was 16.6 years (SD = 1.11), with a range from 14 to 20 years. Results show that FI significantly influenced RTB [$F(1,471) = 3.377, P < .05$] but not for SHB. There was a significant main effect for gender and RTB, [$F(1,471) = 23.668, P < .001$] and again not for SHB. Age was not significant for both RTB and SHB but interacted with FI to significantly predict RTB [$F(1,471) = 3.672, P < .05$] and SHB [$F(1,471) = 3.646, P < .05$]. In general, ♀s (females) had higher scores than males (♂s) on RTB and SHB. High FI helps drops scores of RTB and SHB. Younger learners had higher RTB scores when FI is low but significantly drops when FI is high. Older learners show higher scores on SHB when FI is high and finally, older ♀s seem to be more problematic than older ♂s on RTB while ♂s are more problematic for SHB. Recommendations were made based on the findings of the study including the need to have mandatory clinical psychological services in schools for assessment and early detection of learners at risk and the need for a general attitudinal change among fathers to be involved in the lives of their children.

Keywords: Gender/Age/Father, involvement/Self-harm/Risk-taking, behaviour/South Africa

Introduction

According to Reddy et al (2010), South Africa is home to 9 million, 747 thousand young people while nearly one third (31.0%) of the country's population is aged younger than 15 years (StatsSA, 2010). Statistics in South Africa also show that among these young ones, there are 667 deaths by suicide every month, 154 per week every day and virtually 1 every hour (Schlebusch, 2011; Health24.com, 2015). Suicide attempts forms part of risk-taking and self-harm behaviours which have been identified as serious public health problems, common among youths (Booth, Scott & King, 2010) and are becoming alarming with statistics showing that one in five teens thinks about harming themselves,

while 7.8% of these youths had previously attempted suicide and 57.7% had told someone of their intentions to end their lives (SADAG, 2015). Adolescent period has been described as turbulent (Idemudia & Makhubela, 2011) and many adolescents at this stage experiment with a range of risky or unsafe behaviours (Mcaloney, McCrystal & Percey, 2010) including self-harm.

Risky and self-harm behaviours (RTSHIA) do jeopardise physical health and at the same time have psychological and social outcomes which interferes with normal developmental tasks and the fulfilment of expected social roles (Lauren et al., 2004). Self-harm behaviour (SHB) have been viewed by various

researchers (Ougrin, Tranah, Stahl, Moran, & Asarnow, 2015; Mental Health First Aid Australia, 2014) as a problem common mostly to adolescents. Self-harm behaviour (SHB) otherwise known as self-injure behaviour is defined as the act of harming the surface of oneself deliberately without suicidal intentions (Zetterqvist, Lundth, Dahlstrom, & Svedin, 2013; Latimer, Covic, & Tennant, 2012). Such harm includes but not limited to cutting, scratching or pinching, and burning of oneself. According to Klonsky (2009), self-harm is defined as the process by which an individual directly and intentionally injure their body tissue without conscious suicidal intents.

Many adolescents see self-harm behaviours (SHB) as a means of alleviating intense emotional pain or distress, an avenue of showing others how bad they felt, and a way of displaying an overwhelming negative feelings, thoughts and or memories. Other reasons for self-harm behaviours are wearing clothes that are inappropriate to weather conditions, putting or hiding sharp objects such as razor blades or lighters in unusual places. (Ougrin, Tranah, Stahl, Moran, & Asarnow, 2015; Brausch & Girresch, 2012).

There are conflicting results with regards to gender in risk-taking and self-harm behaviours of adolescents. Laukannen, Rissanen, Honkalampi, Kylma, Tolmunen, and Hintikka's (2009) study on self-harm behaviour among Finnish adolescents found that there are no gender differences in self-harm behaviour. Similarly, research among high school students in Spain indicated that both male and female students exhibited the same level of self-harm behaviours (Kirchner, Ferrer, Forns, and Zanini, 2011). In Belgium, Van Camp, Desmet, and Verhaeghe's (2011) study among high school students found that there were no gender differences in self-harm behaviour of adolescents. However, studies (Gratz, 2006; Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002) on self-harm behaviour showed that female engaged in self-harm behaviour than their male counterparts. On the other hand, a study (CARRS-Q, 2010) in Australia among

adolescents showed that risk-taking behaviour (RTB) is more common among males, early school leavers as well as youths with less parental supervision, peers who also actively engage in risk-taking behaviour (RTB), have negative attitudes to authority and high alcohol use. The study also showed that adolescent females aged 12-15 years are considered to be risky and high drinkers than males.

Research studies on the appropriate age of adolescents in engaging in self-harm behaviour have provided mixed results. Laukannen, et al. (2009) study showed that young/early adolescents between the ages of 10-11 engaged more in self-harm behaviour than the middle and late adolescents. A study conducted by Mental Health Foundation (2006) indicated that young adolescent of 12 years engaged more in self-harm behaviour than the middle and late adolescents. However, studies on age and self-harm behaviour showed that middle adolescents between the ages of 14 to 15 engaged more in self-harm behaviour than the early and late adolescents (Hawton & Harris, 2008; Bjrehed & Lundh, 2008).

While psychological literature are rife with studies on risky and self-harm behaviours (Lauren, Flisher, Bhana & Lombard, 2004, Laukanen et al., 2009, Kirchner et al, 2011, Ougrin et al, 2015), unfortunately, many studies do not look at how father involvement (FI) can influence adolescent risky and self-harm behaviours. Studies (e.g. Tormoen, Groholt, Haga, Brager-Larsen, Miller, Walby, 2014; Rossow, & Wichstrom, 2010, Gray & Anderson, 2010) have indicated that many youth who engaged in self-harming behaviour do not often have their fathers playing a significant role in their lives because most of the adolescents that engaged in self-harming behaviour made no report to their fathers (Watanabe, Nishida, Shimodera, Inoue, Oshima, & Sasaki, 2012) but rather seek help from their friends (Evans, Hawton & Rodham, 2014) whom they have more trust than their fathers because of the possibilities of corporal

punishment that might actually come from their fathers.

Theoretically, explaining adolescent's risk-taking and self-harm behaviour among adolescents can be explained in the Fuzzy – trace theory (FTT). FTT is a theory of cognition (Brainerd & Reyna 2004) that draws upon dual-trace conceptions to predict and explain cognitive phenomena, particularly in the memory and reasoning domains. The theory explains how false memory influences probability judgments, medical decision making, risk perception and estimation, and biases and fallacies in decision making (Brainerd & Reyna, 1996). This theory explains risky decision making in children, adolescents, and adults, incorporating social and cultural factors as well as differences in impulsivity. According to the theory when adolescents “rationally” weigh costs and benefits, risk taking increases, but it decreases when the core gist of a decision is processed (Reyna & Brainerd, 1991, 1995). According to Brainerd & Reyna (2004), emotion and risky behavior are not independent in adolescence, rather they interact in meaningful ways. Fuzzy-trace theory posits that advanced judgment and decision making is based on simple, gist mental representations of choices (“fuzzy” memory traces) as opposed to more detailed, quantitative representations (verbatim memory traces). Gist refers to the meaning an individual extracts from information (i.e., the semantic representation), which reflects the individual's knowledge, understanding, culture, and developmental level (Reyna & Brainerd, 1995). Fuzzy-trace theory is counterintuitive; it implies that mature thinking may be considered technically “irrational” because it does not necessarily reflect quantitative, compensatory trade-offs between risks and rewards. In fact, consistent with fuzzy-trace theory, inconsistencies and biases in decision making that are based on semantic processing of gist, such as framing effects, emerge with development and become greater with age, which are side effects of a generally robust form of rationality that is gist-based. It is on the basis of this theoretical

understanding that it is hypothesized that father involvement, gender and age will influence risky and self-harm behaviours of adolescents.

A study conducted by Cobb-Clark and Tekin (2013) indicated that nearly four in ten births are to unmarried women, indicating that there is likelihood of most children growing up with no biological father in their lives or their fathers being uninvolved. In addition, the (U.S. Census Bureau 2010) asserts that the fraction of children under age 18 living in mother-only families has risen from 8% in 1960 to 23% in 2010. The rates of fatherlessness or father absence or not involvement is high among the Hispanic/Latino and African American children in the US (Coakley, Shears & Randolph, 2014). In South Africa, the situation is not different. Past research indicates that almost two decades of democracy have seen an increase in the number of children living with no fathers (Statistics South Africa [StatsSA], 2010), and statistics also show that the number of children living without their biological parents in particular their biological fathers is increasing. Approximately 4 million children are likely to be maternal, paternal or double orphans), of these approximately 859,000 are double orphans, 624,000 maternal orphans and 2,468,000 paternal orphans (Meintjes & Hall, 2010).

According to Roubinov, Luecken, Gonzales and Crnic, (2016) and Lamb, Pleck, Charnov and Levine, (1987), the concept of paternal involvement is one of the most influential developments to follow from dedicated study of fatherhood which is a theoretical construct that encompasses engagement, accessibility and responsibility. Studies on how father involvement influences adolescent risk-taking and self-harm behaviours are scarce and under-reported particularly in Africa. However, father involvement (FI) have been reported to be associated with social and cognitive development, psychological wellbeing and academic performance of

children (Downer & Mendez 2005), stronger effect of adolescent happiness than mother involvement (Flouri & Buchanan 2003) positive psychological wellbeing of parents and family functioning (Cummings et al 2010, Kwok & Li (2014). Self-harm have also been associated with lack of parental bonding (Kotsopoulou & Melis, 2016) but the study did not specify whether it was a paternal or maternal bonding. Studies (Amato, 2000; Cherlin 1999; McLanahan and Sandefur, 1994) have shown that living apart from one's biological father is linked with a greater risk of adverse outcomes for children and adolescents irrespective of education, race or mothers remarriage.

Father involvement has been linked with risky behaviours, criminal activities, and poor school performance (Carlson, 2006; Booth et al, 2010). Thus high quality of father involvement is found to be beneficial to adolescent's wellbeing and development even when provided by a non-resident father (Amato, 2004). It is therefore important to understand the role of fathers' involvement (FI) with demographic factors such as age and gender differences and how these account for adolescents risky and self-harm behavioural problems.

Method

Design:

The study used a cross-sectional design. In this study, the independent variables are father involvement, gender and age and the dependent variables are risk taking and self-harm behaviours. Father involvement was introduced at two levels (high and Low), Sex difference at two; levels (male and females) and age differences at two levels (younger [<17 years] and older adolescents [>18 years]) hence a 3-way (2x2x2) factorial analyses. The RTSHIA scale measuring outcomes was divided into RTB and SHB components as indicated in the scale and computed separately.

Sample

The sample consisted of 479 High School Learners in a predominant black Secondary School community in North West Province, South Africa. Of the 479, (299 [62.4%] were males and 180 [37.67%] were females. The average age of the respondents was 16.6 years ($SD = 1.11$), with a range from 14 to 20 years. Grade level of learners were Grade 10 (248[51.8%], Grade 11 (62[12.9%], Grade 12 (169[35.3%]).

Instruments

In addition to providing the above demographic information, participants completed the following measures.

Father involvement Scale: Father Involvement Scale (Finley & Schwartz 2004) has a list of 20 domains of Father Involvement selected from the review and critique by Hawkims and Palkowitz (1999). The scale has been widely used. For each fathering domain listed, participants are asked to indicate the following: (a) how involved, on a scale of 1 (*not at all involved*) to 5 (*very involved*), their fathers were in their lives and (b) how involved they *wanted* their fathers to have been, relative to how involved their fathers actually were, on a scale of 1 (*much less involved*) to 5 (*much more involved*). According to Finley and Schwartz (2004), Factor analyses of the reported and desired involvement items from the Father Involvement Scale in the larger sample yielded three reported involvement scales and two desired involvement scales. Reported involvement scales included *expressive involvement* (care giving, companionship, sharing activities, emotional development, social development, spiritual development, physical development, and leisure; α is .93); *instrumental involvement* (discipline, protecting, providing income, monitoring schoolwork, moral development, developing responsibility, career development, and developing independence; α is .91), and *mentoring/advising involvement* (intellectual development, developing competence, mentoring, and giving advice; α is .90).

Desired involvement scales included desired expressive involvement (10 items, Cronbach's α is .93) and desired instrumental involvement (10 items, Cronbach's α is .92). A pre-test of the scale among 30 Secondary School Learners and a Split-half reliability showed .90, .85, .97, .91 and .93 for the dimensions mentioned above thereby justifying its use among South Africans. However, a composite score of the scale of all dimensions was used and as a result assisted the dichotomy of father involvement (FI) to high (N =283) and low (N196) = using a half-standard deviation as cut off point.

Risk-taking and Self-harm behaviour: Risk-taking and Self-harm behaviours were measured with the Risk-taking and Self-harm behaviours (RTSHIA) (Vrouva, Fonagy, Fearon and Roussow, 2010). The scale is a self-report measure with 38 items designed to assess individual between the ages of 11 and 19 years within clinical and community setting. The items in the scale are measured on a 4-point Likert scale and answered by selecting "never =0", "once =1", "more than once =2", or "many times=3. Self-harm items are about self-mutilation (e.g. cutting, burning, biting, scratching one's skin, etc.), followed by a question about the part(s) of the body that were deliberately injured, if applicable. The inter-item and test-retest reliability were high with a Cronbach's α of .85 and .93 (Vrouva, Fonagy, Fearon and Roussow, 2010). Scores were computed for RTB (items 1-12) and SHB (13-37) separately for detailed analyses. Higher scores correspond to greater risk-taking and self-harm behaviours. Cronbach's α was .96 and .90 in this study.

Procedure:

We conducted a cross-sectional survey in a Secondary School located in a predominant black community in the North-West Province of South Africa. To gain access to the participants, an ethics application was made and approved by the North-West University Ethics Committee and furthermore an extended application to the Department of Education was approved and a date was

approved to meet with the school principal who then introduced one of the researchers to the school team and informed consent obtained. The authorities were also informed that the study outcome was for research purposes only. Dates and times for data collection were agreed on and thereafter learners were told the purpose of the research and were then informed of their rights not to participate or to withdraw after they have agreed to participate. They were told not to write their names or give any identifiable information as the data would be treated as a group data. Learners were also told that their responses would be treated with utmost secrecy and confidentiality. The learners were also assured that names of the school would not be revealed in any way and in addition to that we stressed the fact that the participants would not come to any harm by participating in the study and that the surveys should be completed anonymously. It took about 30 minutes to complete the questionnaire. In order to enhance the response rate and for age purposes, data were collected from three grade levels (10, 11 and 12) and several repeated visits were made to collect completed questionnaire and a total of 523 were filled and collected out of 600 but only 479 were well completed and 44 questionnaires were incomplete and therefore discarded yielding a response rate of 79.83%.

Statistics

We conducted statistical analyses with SPSS version 23.0. Descriptive analyses, Analysis of Variance (for unequal N) were used to test the hypotheses. The level for significance was set at $p < .05$. Results are presented in graphs of the ANOVA computed.

Results

To examine whether or not father involvement, gender and age will significantly influence (separately and jointly) risk-taking and self-harm behaviour, a 2 X 2 X 2 factorial analyses was computed for the variables. RTSHIA measures RTB and SHB. Items for each component were measured continuously. The higher the score, the more a learner

engages in risk-taking and self-harm behaviours. FI was dichotomized into high FI and Low FI, age was dichotomized into younger [<17 years, $N=90$] and older [> 18 years, $N=389$] age groups and gender as male and females. For all the variables, a half-standard deviation above and below the mean score was used to separate high and low scorers. As a result, a univariate analysis of variance (UNIANOVA) was performed to test the hypotheses that FI, gender and age will significantly (separately and jointly) determine risk-taking and self-harm behaviours. Results are presented below:

- In general, results show that FI significantly influenced RTB [$F(1,471) = 3.377, P<.05$] but not for SHB.
- There was a significant main effect for gender and RTB, [$F(1,471), = 23.668, P<.001$] and again not for SHB.
- Age was not significant for both RTB and SHB

- However, FI and age interacted significantly at a two-way level to predict RTB [$F(1,471), =3.672, P<.05$] and SHB [$F(1,471), =3.646, P<.05$].

The study showed some interesting results which are further illustrated in graphs below.

In Figure 1a below, results show that females have higher scores on RTB than males when FI is low and drops to a significant level [$F(1,471) = 3.377, P<.05$] when FI is high. Figure 1b (SHB) also show a sharp drop from SHB when FI is high. Females showed higher scores than males on RTB and SHB. Results indicate that high FI lowers RTB and SHB.

Fig.1a: FI and Gender scores on RTSHIA (Risk-taking,behaviour)

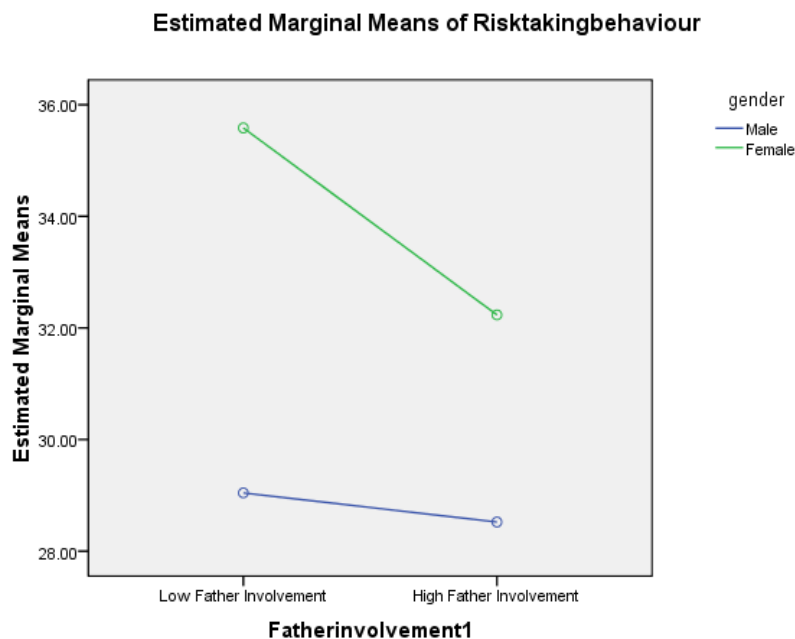


Fig. 1b: FI and Gender scores on RTSHIA (Self-harm behaviour)

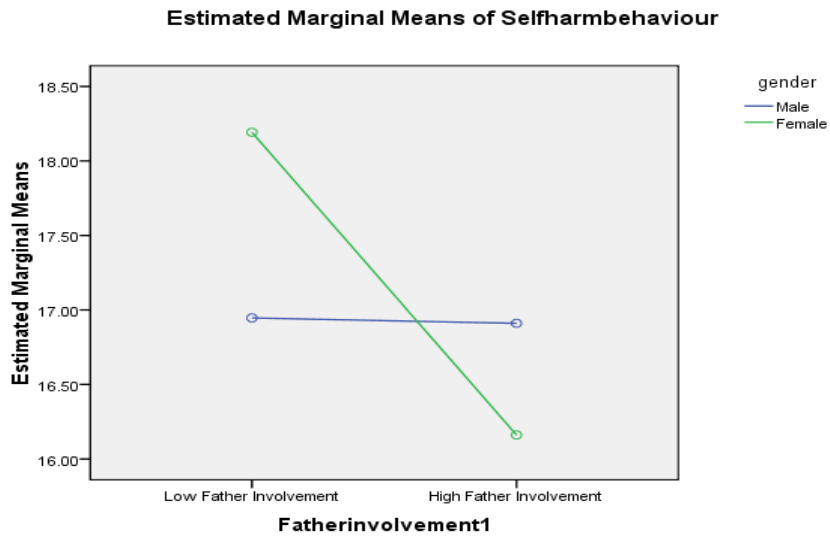


Figure 2a showed that younger learners had higher scores on RTB when FI is low but significantly drops when FI is high. No change seems to be observed for older learners. Figure

2b again showed that SHB is high among young learners but drops drastically when FI is high. The opposite is observed for older learners with SHB rising when FI is high.

Fig. 2a: FI and Age group scores on RTSHIA (Risk-taking behaviour)

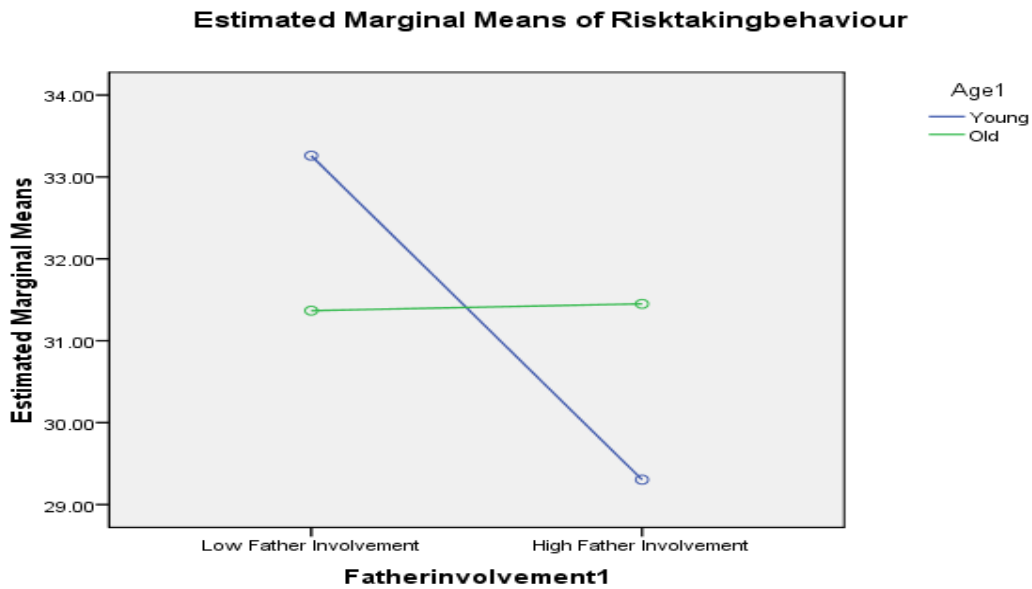
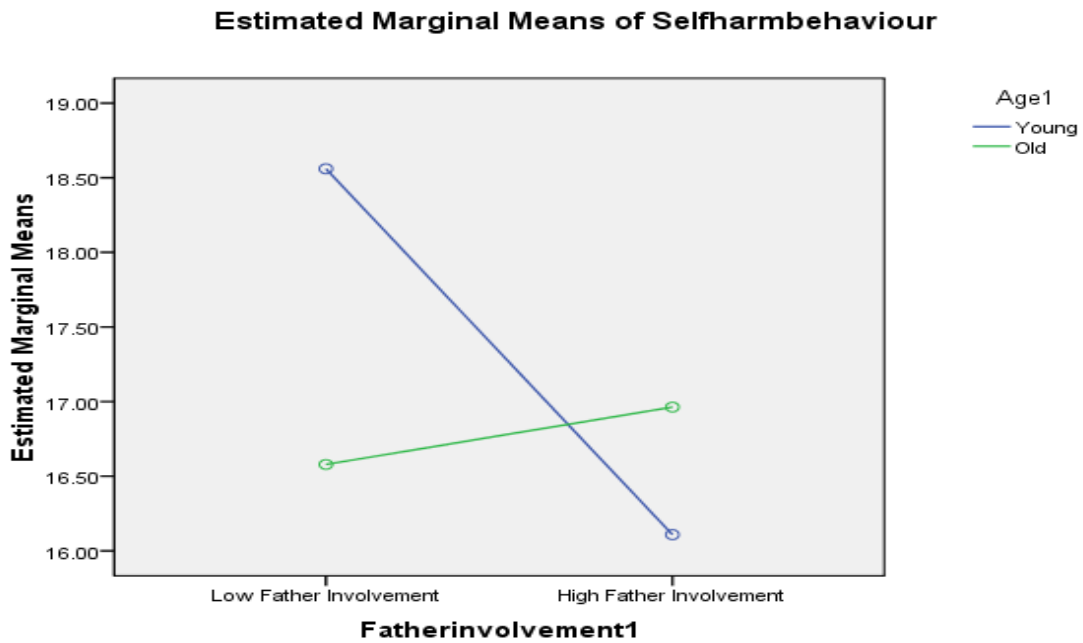


Fig. 2b: FI and Age group scores on RTSHIA (Self-harm behaviour)



Finally, Figures 3a and b showed mixed results. Although females significantly scored higher on RTB than males, [F (1,471), = 23.668, P<.001], it seems the older female

group have increased scores while older male learners declined on RTB. Figure 3b shows that SHB declined for older females and increased for older males.

Fig. 3a: Gender and Age group scores on RTSHIA (Risk-taking behaviour)

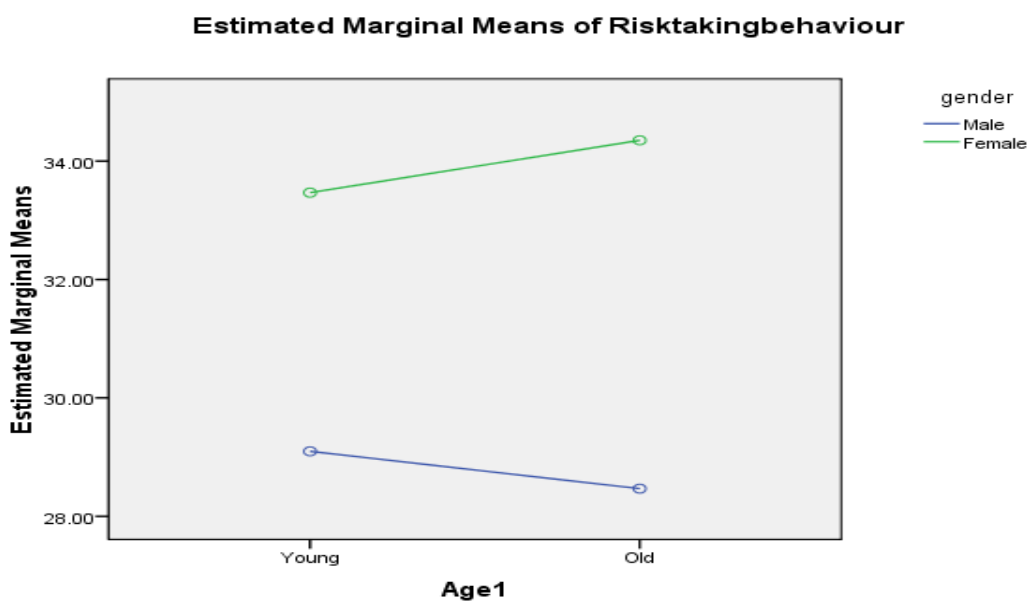
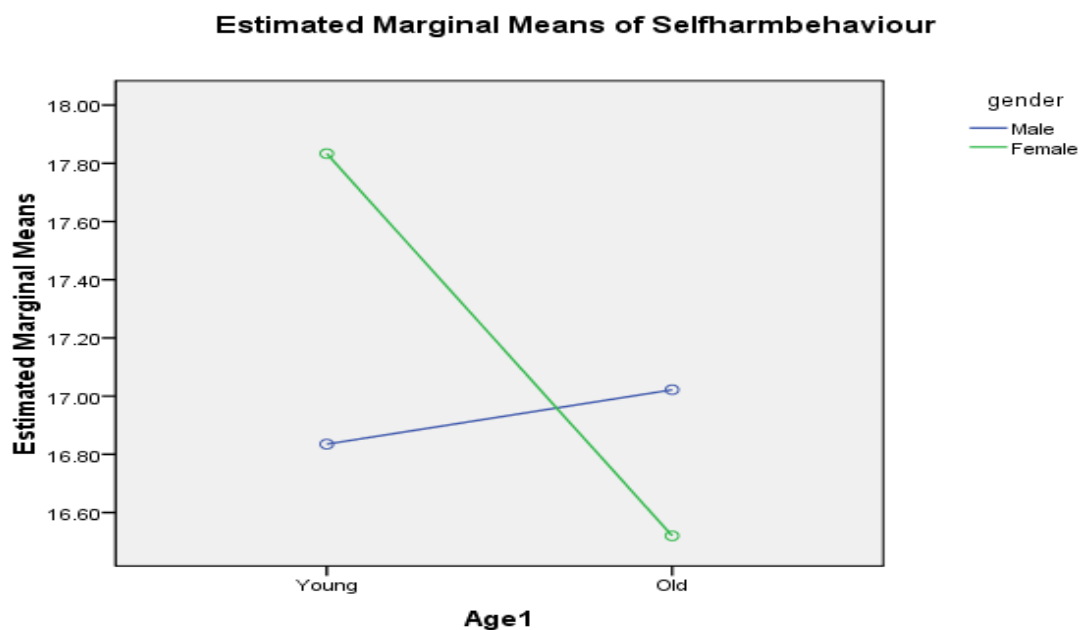


Fig. 3b: Gender and Age group scores on RTSHIA (Self-harm behaviour)**Discussion and conclusions:**

Results of the study show that FI and gender significantly influenced RTB but not SHB. Although age was not significant for both RTB and SHB, the variable interacted significantly with FI to predict RTB and SHB. The graphic break down of the results show that females in general had higher RTB and SHB scores than males and significantly improves when FI is high in both dimensions. The study supports the claim that father is associated with social and cognitive development, psychological wellbeing and academic performance of children (Downer & Mendez 2005), stronger effect of adolescent happiness than mother involvement (Flouri & Buchanan 2003) positive psychological wellbeing of parents and family functioning (Cummings et al 2010, Kwok & Li, 2015). In addition, self-harm have also been associated with lack of parental bonding (Kotsopoulou & Melis, 2016). Studies (Amato, 2000; Cherlin 1999; McLanahan and Sandefur, 1994) have shown that living apart from one's biological father is linked with a greater risk of adverse outcomes for children and adolescents irrespective of education, race or mothers remarriage. Father involvement has been linked with risky behaviours, criminal activities, and poor school performance (Carlson, 2006) and that high quality of father

involvement is found to be beneficial to adolescent's wellbeing and development and even when provided by a non-resident father (Amato, 2004). In addition, Studies (e.g. Tormoen, Groholt, Haga, Brager-Larsen, Miller, Walby, 2014; Rossow, & Wichstrom, 2010) have indicated that many youth who engaged in self-harming behaviour do not often have their fathers playing a significant role in their lives because most of the adolescents that engaged in self-harming behaviour made no report to their father (Watanabe, Nishida, Shimodera, Inoue, Oshima, & Sasaki, 2012) but rather seek help from their friends (Evans, Hawton & Rodham, 2014) whom they have more trust than their fathers. This support lends its weight on the claim by Roubinov, Luecken, Gonzales and Crnic, (2016) and Lamb, Pleck, Charnov and Levine, (1987), that the concept of paternal involvement is one of the most influential developments to follow from dedicated study of fatherhood which is a theoretical construct that encompasses engagement, accessibility and responsibility.

As previously indicated, results on gender and age were mixed. However, this study did find that females generally scored higher than males on RTB and SHB. The finding supports the study by Gratz, 2006, Laye-Gindhu and

Schonert-Reichl, (2005), and Ross and Heath, (2002) that females engaged in self-harm behaviour than their male counterparts.

Previous studies (Laukannen, et al. 2009; Mental Health Foundation, 2006) have shown that younger adolescents scored higher than older ones on RTB and SHB. This study showed a mixed result with younger adolescents scoring higher on RTB but with older males scoring higher on SHB although the variable for age did not reach an acceptable level of significance. However, the dynamics found in the results of the study are quite interesting. Scores of adolescent males increases on SHB as they grow older while it decreases for RTB. SHB scores decreases sharply for females as they get older while RTB increases as they get older. This is an observation that needs further research.

Conclusion:

From the study results, the following conclusions are made:

- FI significantly influenced RTB but not SHB.
- There was a significant main effect for gender and RTB and again not for SHB.
- Age was not significant for both RTB and SHB.
- FI and Age interacted significantly at a two-way level to predict RTB and SHB.
- In general, females had higher scores than males on RTB and SHB.
- High FI helps drops scores of RTB and SHB
- Younger learners had higher RTB scores when FI is low but significantly drops when FI is high.
- Older learners show higher scores on SHB when FI is high
- Older females seem to be more problematic than older males on RTB while males are more problematic for SHB.

Recommendations:

The study findings are timely given the current high rate of RTB, SHB and

fatherlessness or lack of father involvement in the country and the fact that the South African youth population of under 18 years constitute about 50% of the population. Potentially, the problem of RTB and SHB can be damaging for youth if proper steps in the right direction are not taken. To this end therefore, and on the basis of the study findings, the following are highly recommended:

- It is important that clinical psychologists are employed in secondary/high schools that can from time to time assess these learners' in advance and give appropriate intervention designed for such individuals both for short and long-term therapeutic interventions for self-harm behaviours (NIHCE, 2012).
- Early intervention will help monitor their psychological needs, level and type of problems, severity and this will necessitate prompt psychological treatment and other medical services needed if any, to such individuals. Such proactive interventions will also have far reaching implications for school authorities,
- The current psychology programmes for school learners are haphazard and therefore, should consider psychotherapy or psychological counselling as an important tool for modifying psychological and deviant behaviour. Psychologists, psychiatrists and other mental health practitioners elsewhere in developed countries have recognized that understanding learners' behaviours is critical to solving problems such as RTB and SHB.
- The government should embark on a programme for fathers that can teach how to be involved in their families.
- Father-daughter relationship should be enhanced
- Mandatory psychological check-up for suspected violent learners.

- The psychological services should include periodic assessment of personality and learner/school/family conditions/situations.
- Interventions considered by the clinical psychologist should include programmes that targets improving RTB and SHB.

Limitations:

The study has some limitations. First, the data is cross-sectional, making causal inferences regarding determination problematic. A large group with control is also needed for further studies. In future studies, researchers should control for racial group of learners as cultural factors may affect outcomes. The generalizability of results is limited because all respondents were located in one school. Therefore, replication of this research across the whole country would be valuable. However, the findings in this study help in closing the gap in knowledge on FI, gender and age on RTB and SHB.

Acknowledgements

The author acknowledges the assistance of the participants in the study.

Competing Interests

The authors have no financial disclosures or conflicts of interest to report.

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