

Emotional Behaviour and Academic Achievement in Middle School Children

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The present study investigates the relationship between emotional behaviour and academic achievement in middle school children in Hyderabad, Pakistan. One hundred and forty-six students of grade 8 completed the Emotional Behavioural Scale for Pakistani Adolescents (EBS-PA; Soomro, 2010), and rendered measures of their social anxiety, malevolent aggression, and social self-esteem scores. These measures cumulatively represented emotional behaviour in these children, based upon Clarbour and Roger's (2004) model of emotional style, on which the EBS-PA scale is based. We then ascertained academic grades of these students from their school records and ran correlation between academic achievement (grades) and emotional behaviour measures. Results revealed academic achievement to be negatively associated with malevolent aggression, but positively related to social self-esteem. In addition, mediator analysis indicated social self-esteem to partially mediate the relationship between malevolent aggression and academic achievement.

Keywords: emotional behaviour, academic achievement, adolescents, Pakistani

There is robust evidence that emotional and behavioural problems are related with academic difficulties (Arnold, 1997; Hinshaw, 1992). These associations predict school drop-out rate, academic failure, delinquency, drug abuse, and unemployment which not only affect the individual but impacts the society as well (Lane, Carter, Pierson, & Glaeser, 2006; Trout, Nordness, Pierce, & Epstein, 2003). In developed countries, emphasis on developing a healthy personality during childhood has led to life successes in the individuals' adult life (Shiner & Caspi, 2003). However, such emphasis in developing countries like Pakistan lack major thrust (Stewart & Bond, 2002), with little awareness in professionals and caregivers of the mental and psychological well-being of children (Karim, Saeed, Rana, Mubbashar, & Jenkins, 2004). General observations suggest that when children go to paediatricians or general practitioners of medicine for their routine medical checkups, medical professionals may neglect assessing psychological problems and health (Ozer et al., 2009). Ignoring emotional and behavioural problems leads to impoverished scholastic performance (Simpson, Patterson, & Smith, 2011). Consequently, many children fail to thrive or meet their potential during their academic and later in their occupational life (Khalid, 2003).

Anxiety and aggressive emotional styles pose problems for students and challenges for educators (Simpson et al., 2011). Students with internalising behaviour problems often do not pay attention to their teachers to avoid challenging them and interrupting instructional process (Lane, 2007). If such problems are left undiagnosed, scholastic performance, social interactions, self-esteem, and life skills are affected (Goldman, 2009). In addition, internalising and externalising behavioural problems are linked with academic difficulties (Arnold, 1997; Frick et al., 1991; Hinshaw, 1992). For instance, Hinshaw (1992) reported that inattention and hyperactivity are the stronger correlates of academic achievement problems than aggressive behaviours during childhood whereas

anti-social behaviours and delinquency are considered as the stronger correlates with low academic achievement during adolescence. A preliminary study has also indicated that adolescents diagnosed with externalising and/or internalising disorders attending psychiatric clinics scored higher on malevolent aggression and social anxiety respectively than normal school children (Soomro & Clarbour, 2010).

The evidence linking internalising problems to academic achievement over time is less consistent (Masten et al., 2005). For example, studies linking these problems with academic achievement suggest that objective and perceived academic failures in an inconsistent manner are related to change in internalising symptoms (Chen, Rubin, & Li, 1997; Cole, Martin, & Powers, 1997; Maughan, Rowe, Loeber, & Stouthamer-Loeber, 2003). Serious academic problems have been noted for those adolescents who meet the criteria for psychiatric diagnoses of internalising disorders such as anxiety disorders and depression (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Kovacs & Devlin, 1998).

Further support for associating poor academic consequences with internalising problems is also limited and mixed. Strahan (2003) conducted a longitudinal study over a two year period on college students to examine whether social anxiety, social skills, and other academic variables affects grade point average (GPA). He reported that social anxiety did not emerge as a significant predictor of GPA. However, in adolescents who met the criteria for psychiatric diagnoses of anxiety disorders and depression, serious academic problems had been noted (Bardone et al., 1996; Kovacs & Devlin, 1998). However, findings have been equivocal in broader studies of the predictive significance of scores on a continuously distributed internalising symptom dimension (Cole, Martin, Powers, & Truglio, 1996; Roeser, Eccles, & Sameroff, 2000).

Self-esteem has been found to be an important precursor of school achievement and related adjustment (Carr, Borkowski, & Maxwell, 1991; Lau & Leung, 1992; Midgely, Arunkumar, & Urdan, 1996). For example, individuals who have high self-esteem and have greater confidence in their own abilities to cope with challenging tasks are likely to apply adaptive strategies (Dweck & Leggett, 1988; Gottfried, 1985). Aunola, Stattin, and Nurmi (2000) found that low self-esteem was associated with maladaptive achievement strategies, which in turn, was associated with maladjustment at school and internalising and externalising problem behaviours. Clarbour and Roger (1999) also reported a positive

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association between social self-esteem, based on a subscale of Emotional Behavioural Scale (EBS) and scholastic competence using the Self-Perception Profile for Children (SPPC) developed by Harter (1985).

Khalid (2003) examined the relationship between children self-esteem and academic performance of Pakistani and Scottish 10-11 year old students of multi-ethnic schools in Scotland. He found significant correlation between self-esteem and academic performance. Children in high self-esteem group performed significantly better at school than the children in low self-esteem group. Roeser, Van der Wolf, and Strobel (2001) in a cross-national study examined the relationship between social-emotional and school functioning in American and Dutch adolescents. They found academic efficacy to be positively correlated with self-esteem (US and Dutch samples) but negatively correlated with emotional behavioural problems as assessed by Youth Self-Report (YSR) of Child Behavior Checklist (CBCL) developed by Achenbach (1991). Though externalising behavioural problems were strongly (negatively) correlated with academic achievement in the US sample, but in the Dutch sample this was not the case.

Based on the above evidence, though inconsistent at times, one may be driven to conclude that behavioural problems have a negative influence on academic achievement fostering other maladaptive behaviours in turn. Studies show that many children in Pakistan demonstrate behavioural problems (Hussain, 2009; Samad, Hollis, Prince, & Goodman, 2005; Syed, Hussein, & Mahmud, 2007), which may also impact their academic achievement. Therefore, it is important to explore the relationship between emotional behaviour and academic achievement among Pakistani students, especially adolescents who are preparing for higher studies. The present study is aimed to explore this relationship using a newer scale that measures emotional and behavioural problems (Soomro, 2010).

Hypotheses

Malevolent aggression would be negatively associated with academic achievement (grades) but social self-esteem would be positively related to academic achievement in adolescent Pakistani students. Further social self-esteem would mediate as a potential factor between malevolent aggression and academic achievement. Our hypothesis about social anxiety is exploratory, and we wish to identify if social anxiety would negatively associate with academic achievement and positively with malevolent aggression.

Method

Participants

We drew 72 boys (49.31%) and 74 girls (50.69%) of 8th grade from two separate gender specific secondary schools in Hyderabad, Pakistan. Their age ranged from 12 to 15 years ($M = 13.42$, $SD = 0.84$) with boys ($M = 13.64$, $SD = 0.93$) being slightly older than girls ($M = 13.20$, $SD = 0.68$).

Instruments

1. *Emotional Behaviour Scale for Pakistani Adolescents (EBS-PA; Soomro, 2010)*. The EBS-PA is derived from the Emotional Behav-

iour Scale (Clarbour & Roger, 2004). It is a self-reporting instrument, which is designed to measure emotional behaviour in Pakistani adolescents. It consists of 49 items and has three subscales; Social Anxiety subscale (19 items) which measures concerns about behaving appropriately in social settings as well as empathic concern for others, e.g., 'I easily become upset'; Malevolent Aggression subscale (20 items) which assesses the capacity to harm others and measures the tendency to manipulate others for self-gain and a desire for revenge, e.g., 'I feel happy when I get my revenge'; and Social Self-Esteem subscale (10 items) which refers to feelings of self-worth in social situations, e.g., 'Sometimes I really feel unwanted'. The response format for each item is dichotomous: 'more like me' (1) or 'less like me' (0). Adding scores for each subscale gives their respective composite scores, which range from 0-19 for Social Anxiety subscale; 0-20 for Malevolent Aggression subscale; and 0-10 for Social Self-Esteem subscale.

The three-factor structure of this scale has been confirmed using confirmatory factor analysis in samples of adolescents taken from United Kingdom (Clarbour & Roger, 2004) and Pakistan (Soomro & Clarbour, 2010). Validation studies have shown that scores on the Social Anxiety subscale are positively related to measures of emotional symptoms, prosocial behaviour, empathy, and internalising behaviour problems while scores on Malevolent Aggression subscale have been found to correlate positively with psychoticism, poor behavioural conduct, conduct problems, hyperactivity, emotional difficulties, measures of aggression, and externalising behaviour problems (Clarbour & Roger, 2004; Soomro & Clarbour, 2009, 2010). The scale has also demonstrated high internal consistency and test-retest reliability (Soomro & Clarbour, 2010). The reliability coefficients for the current sample was $\alpha = .82$ for social anxiety, $\alpha = .83$ for malevolent aggression, and $\alpha = .76$ for social self-esteem.

2. *Academic Achievement*. To determine students' academic achievement, grades and percentages were accessed by the class teachers from the school academic records with permission and were converted to 1-6 scale. This scale consisted of: 1 (below 50%, Fail); 2 (50-59%, Pass); 3 (60-69%, C-grade); 4 (70-79%, B-grade); 5 (80-89%, A-grade); and 6 (90-100%, A⁺-grade).

Procedure

Ethical approval for the study was taken from the University of York ethics committee prior to data collection. Following ethical guidelines, full consent was gained from the parents, children, and teachers prior to undertaking this research. The aims of the study were explained, highlighting that participation was voluntary and assurance was given that all participants' responses would remain anonymous and would only be used for research purposes. The EBS-PA was administered in groups of 25-30 students during school periods. Each group of participants took two school periods to complete the measures. Class teachers were also requested to provide students' academic grades of the previous academic year.

Statistical Analyses

Data analyses proceeded in steps using a variety of statistical methods. First, a Mann-Whitney *U* test was computed to examine any gender difference in academic achievement. We then carried out Spearman's correlations to explore the relationship between

emotional behaviours and academic achievement; and a series of regression analyses to examine the role of social self-esteem as a mediator variable between academic achievement and malevolent aggression, as its predictor.

Results

Descriptive Analyses

The Mann-Whitney *U* test revealed no significant differences in academic achievement of girls and boys.

Table 1 shows academic achievement of all participants to be significantly negatively correlated with malevolent aggression ($r = -.20, p < .05$) and strongly positively related with social self-esteem ($r = .37, p < .01$). As expected, social self-esteem was significantly negatively correlated with malevolent aggression ($r = -.24, p < .01$). A significant negative correlation between social anxiety and malevolent aggression ($r = -.27, p < .01$) was surprising and against our intuitions.

To tease out gender differences among these factors, we analyzed this data for boys and girls separately. Though social self-esteem was significantly positively correlated with academic achievement for both boys ($r = .34, p < .01$) and girls ($r = .41, p < .01$), malevolent aggression was significantly negatively correlated with academic achievement ($r = -.28, p < .05$), social anxiety ($r = -.35, p < .01$) and social self-esteem ($r = -.31, p < .01$) for boys only.

Regression Analyses

To explore further the relationship between emotional behaviour and academic achievement, regression analyses were performed and a mediation model for social self-esteem was analyzed using path analysis to test the hypothesis whether social self-esteem would mediate between malevolent aggression and social anxiety with academic achievement. According to Baron and Kenny (1986), one of the prerequisites of a mediation model is to have a significant relationship between the predictor and its outcome variables. Such a relationship was not found in girls between malevolent aggression and social anxiety for academic achievement. Similarly for boys there was no significant relationship between social anxiety and academic achievement. Therefore, subsequent analyses were conducted on the overall sample. Academic achievement did not have a significant relationship with social anxiety therefore mediation analysis for social anxiety was meaningless (Table 1).

Table 1

Correlations amongst Factors for EBS-PA and Academic Achievement

Variables	SA	MA	SSE
Combined Sample ($N = 146$)			
Academic Achievement (AA)	-.13	-.20*	.37**
Social Anxiety (SA)		-.27**	-.13
Malevolent Aggression (MA)			-.24**
Boys ($n = 72$)			
Academic Achievement (AA)	-.08	-.28*	.34**
Social Anxiety (SA)		-.35**	-.20
Malevolent Aggression (MA)			-.31**
Girls ($n = 74$)			
Academic Achievement (AA)	-.17	-.10	.41**
Social Anxiety (SA)		-.18	.11
Malevolent Aggression (MA)			-.09

Note. SSE = Social Self-Esteem.

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

To test the hypothesis that social self-esteem mediates a relationship between malevolent aggression and academic achievement, a series of regression analyses were then carried out. Baron and Kenny (1986) have suggested that in order to detect a mediator relationship, a series of four steps must be implemented. In this case, a model was developed with malevolent aggression as the predictor variable, social self-esteem as the mediator and academic achievement as the outcome variable (Figure 1).

Malevolent aggression significantly predicted academic achievement, $R^2 = .048, F(1, 144) = 7.32, p < .01$, and the mediator variable, in this case social self-esteem, $R^2 = .037, F(1, 144) = 5.54, p < .05$. When the malevolent aggression scores and the social self-esteem scores were entered into a regression analysis with academic achievement scores again as the outcome, the model was significant, $R^2 = .133, F(2, 143) = 13.22, p < .01$, with social self-esteem as a significant predictor, $\beta = .36, t(2, 143) = 4.69, p < .01$. Baron and Kenny (1986) suggest that if the relationship between the predictor and the outcome is zero, it is a complete mediator. If the regression coefficient is only reduced then it is a partial mediator. Malevolent aggression scores remained a significant predictor after accounting for academic achievement, $\beta = -.16, t(2, 143) = 1.98, p < .05$, however, the standardised beta in this equation was reduced from, $\beta = -.22, t(2, 143) = 2.70, p < .01$, as observed when it was the only predictor. This would appear to indicate that social self-esteem mediates some, but not all, of the relationship between malevolent aggression and academic achievement (Table 2).

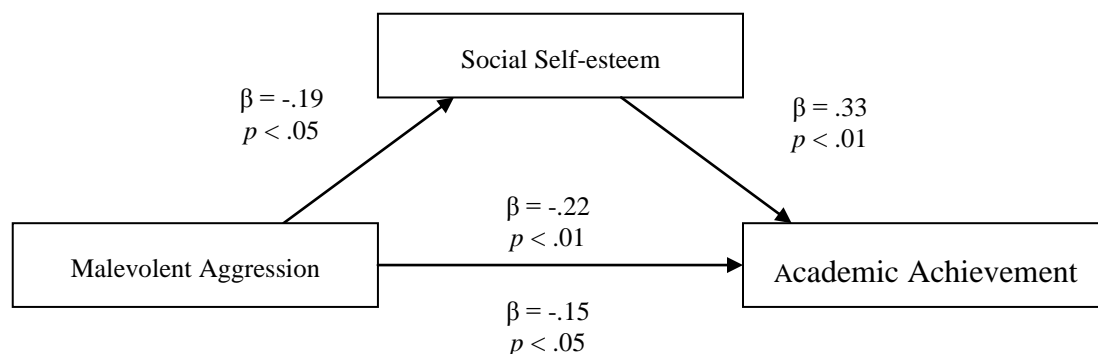


Figure 1. Model of the relationship between malevolent aggression and academic achievement with social self-esteem as the mediator variable

Table 2
*Mediator Analysis for Academic Achievement Predicted by
 Malevolent Aggression Mediated by Social Self-Esteem*

	β
Stage 1	
Malevolent Aggression \rightarrow Academic Achievement	-.22**
Stage 2	
Malevolent Aggression \rightarrow Social Self-esteem	-.19*
Stage 3 & 4	
Malevolent aggression \rightarrow Academic Achievement	-.15*
Social Self-esteem \rightarrow Academic Achievement	.33**

Note. $R^2 = .048$ for Stage 1 (** $p < .01$); $R^2 = .037$ for Stage 2 (* $p < .05$); $R^2 = .156$ for Stage 3 and 4 (** $p < .01$).

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

Discussion

The major aim of this paper was to explore the relationship between emotional behavioural problems (malevolent aggression, social anxiety and social self-esteem) and academic achievement using the EBS-PA. We found that malevolent aggression was significantly negatively related and social self-esteem was significantly positively associated with academic achievement as had been predicted. However, no relationship was found between social anxiety and academic achievement. Further, mediator analysis indicated as hypothesized that social self-esteem partially mediated the relationship between malevolent aggression and academic achievement. We did not find any significant gender differences across academic achievement.

These findings are consistent with previous literature that suggest externalising behavioural problems to be associated with lower academic achievement (Frick et al., 1991; Hinshaw, 1992; McLeod & Kaiser, 2004). For example, Arnold (1997) found a significant negative relationship between the measures of externalising behaviours and academic skills in young boys in USA. Similarly, in the present study, we found that an aggressive emotional style was associated with lower academic achievement. A possible explanation for this association in adolescents is due to non-compliant and undercontrolled behaviours that directly impede learning (Patterson, Reid, & Dishion, 1992). Clarbour (2001) also reported negative relation between malevolent aggression and measures of academic achievement in school children of Britain. Similarly, Prior, Virasinghe, and Smart (2005) found that higher level of problem behaviours, particularly externalising problems were associated with lower academic performance in Sri Lankan adolescents.

In the present study, significant positive relation was found between social self-esteem and academic achievement. The findings may support the argument that students who do well in school may experience more favourable reflected appraisals, social comparisons, and self-attributions (Rosenberg, Schooler, & Schoenbach, 1989). No doubt, schooling is generally a major arena of achievement among adolescents; school grades are a public, visible, and an overt indicator of an important aspect of a student's worth and academic success is generally valued in the society. Thus, those who do well in school should receive more favourable reflected appraisals from significant others. In addition, high academic grades in school might yield positive social comparisons.

Consequently, higher grades would be expected to produce favourable self-attributions; looking at their test scores and report cards, attributing these outcomes to their own efforts and from this drawing positive conclusions about their own self-worth. Therefore, it is argued that social self-esteem positively affects academic grades and vice versa. This was supported by mediation analysis on academic achievement.

Other studies show that problems of adolescents' who display academic under-achievement are not only limited to the academic domain. Such studies reveal that self-esteem deficits and problems in interpersonal difficulties are also common (Stone & LaGreca, 1990). Although global self-evaluation represents global characteristics of the individual and is considered to be stable over time it has also been shown to be dependent on the support offered by significant others (Harter, 1990). However, domain-specific self-esteem reflects the individuals' sense of competence across particular domains such as social competence or school competence and is considered to be more readily permeated by contextual and situational influences (Campbell & Lavalley, 1993).

Robinson and Tayler (1989) argue that students with low academic achievement can protect their self-esteem by attaching importance to a group culture that contradicts with school and in which anti-school behaviour and attitudes are valued. Thus, the poor academic achiever may have lower social self-esteem and these adolescents' may join a social group to protect and enhance their social self-esteem by sharing the anti-social behaviours of their peers. Studies show that academic failure in secondary schools contribute to elevation of anti-social symptoms, perhaps as a result of disaffection from normative schoolmates and activities and association with deviant peers (Deater-Deckard, 2001; Dishion, Patterson, Stoolmiller, & Skinner, 1991).

Clarbour and Roger (2004) have also reported that social self-esteem has a moderate negative correlation with both malevolent aggression and social anxiety in school children of Britain. Further, they also found that social anxiety and malevolent aggression were statistically independent from one another. However, in a subsequent investigation of young offenders, Clarbour and her colleagues found a statistically significant negative correlation between social anxiety and malevolent aggression (Clarbour, Roger, Miles, & Monaghan, 2009). These later results are similar to the present findings for school boys in Pakistan; however, social anxiety and malevolent aggression were statistically independent from each other in Pakistani girls, which is similar to the previous findings (Clarbour & Roger, 2004).

These studies suggest that behavioural problems have a negative influence on academic achievement, regardless of whether problem behaviour causes poor academic performance or works in the opposite direction. Therefore, a more in-depth understanding of the relationship between academic achievement and behaviour problems is important.

Recommendations

The nature of the causal link between emotional and behavioural problems and academic underachievement may play a critical role in the design of intervention programmes for affected students (Lane, Gresham, & O'Shaughnessy, 2002). For example, the present study suggests that social self-esteem mediates the

relationship between externalising problems and academic achievement. Thus, effective interventions may focus on the enhancement of self-esteem along with other academic strategies, which might reduce the behavioural problems so that learning may not be interrupted. Several researchers (e.g., Clarbour & Roger, 2000; Gold, 1978; Houlston & Smith, 2009) have suggested changes that should be introduced into the school system to enhance self-esteem.

Limitations

There are some limitations which should be taken into account in any attempt to generalize the findings of this study. First, because the study was correlational, no conclusion can be drawn concerning the causal relationships between the variables. For example, although it may be assumed that an aggressive emotional style leads to academic under-achievement; it is also possible that underachievement may lead to emotional problems.

Second, the study was carried out in a relatively small sample in Pakistan. A more diverse sample across the nation could cater for specific features of schooling, educational system, and traditions of instruction and the associations between adolescents' emotional styles and academic achievement may account for differences in other cultural environments.

Conclusion

Overall, the results revealed that low academic achievement is associated with increasing externalising behaviour problems and that high social self-esteem is related with higher academic achievement. Furthermore, the association between aggressive emotional style and academic achievement is partially mediated by social self-esteem. Thus, this finding is useful in supporting the argument for introducing interventions (perhaps raising social self-esteem) in school children to counter behavioural problems, thereby improving academic achievement.

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