

Perceived parental pressure and academic achievement among students: Exploring the mediating effect of test anxiety among school students

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September, 2016

Abstract

The current study examines the role of perceived parental pressure in students' academic performance by exploring test anxiety as a mediator in this relationship. A convenience sampling method was employed to select high school students (n=100) from two schools in Bangalore. Data was analyzed using the bootstrapping method of simple mediation. As predicted, results showed that perceived parental pressure had a negative influence on the academic achievement of students which was mediated through the psychological route of test anxiety. Results suggest that students who report high levels of perceived parental pressure tend to feel anxious in an assessment context which hinders their level of performance. This highlights the importance of parental monitoring and encouragement over setting unrealistically high standards for their children.

Key words— Education; Parental Pressure; Test Anxiety; Academic Achievement

Introduction

For many years, education theorists, psychologists, parents and teachers have taken an interest in the factors that promote children's academic achievement. Extensive research has considered the impact of intrinsic factors such as cognition, meta-cognition and motivation (see Winne and Nesbit, 2010). More recently, attention has been given to contextual factors such as peer-supported learning, the school environment, exam anxiety and the role played by families and parents.

In India, over the past decade, higher school enrollment and literacy promotion programs have led more students to achieve high grades and as a consequence there is greater competition for jobs and seats in higher education (Cheney, Ruzzi and Muralidharan, 2005). Concurrently, the curriculum has been toughened to a point where some commentators now argue that it is too ambitious and unrealistic for the majority of children (Seethalakshmi and Ullas, 2014). The combined impact of these developments has led to increased stress amongst students: in 2009, according to the National Crime Records Bureau (2009), 291 students, aged 14 or below committed suicide due to feelings of failure. Furthermore, depression among children is on the rise (Hegde, 2011).

Given the increase in competition and levels of student-stress, parents may wish to know how best they can support their children. Yet, the relationship between parental involvement and academic achievement is complex. This paper explores the relationship between parents' involvement in their children's education and academic achievement. Specifically, it explores the mediating effect of test anxiety on perceived parental pressure and academic achievement amongst students.

Review of Literature

Parental Involvement and Academic Achievement

The interest of parents in their children's education has always been considered beneficial and im-

portant. Several studies have shown that parental involvement is associated with better academic performance, better physiological health and positive behavioral outcomes (Jeynes, 2005; Westerland, et al., 2013). However, when children feel that their parents are over-involved in their education, the impact on achievement can be negative. Schiffrin (2013) found parental pressure to be associated with lower levels of perceived competence, autonomy and relatedness among students. According to Rosemond (2012), there is a thin line between being involved and being over involved. He states that, after a point, as parental involvement increases, student achievement decreases (as cited in Nauert, 2013).

In India, parental pressure has been found to correlate negatively with children's self-esteem, academic achievement and creativity (Sebastian, 2013). According to a report of the Karnataka State Women's Commission, 5 percent of 14,989 girls who went missing from 2009 to 2011, did so because they were not able to bear parental pressure to perform academically (Rao, 2013). It is important to note that not all such studies have identified significant correlations. Some have found only limited evidence that the behavior of parents influences the academic achievement of students (see Olige, 2008). Thus, there is a need for further research to illuminate the mechanisms which operate between parenting behaviors and academic achievement in children and to explore which, if any, parenting behaviors might lead to poor performance among students.

Parental Pressure and Test Anxiety

Parental pressure can lead to high levels of anxiety in students, especially before and during tests and examinations. Putwain, et al., (2010) conducted a study which showed that parental pressure was directly associated with test-irrelevant components of thinking and strong worry. These findings are also supported by Chen (2012) who showed that there exists a positive correlation between perceived parental pressure and students' test anxiety. However, contrasting results were shown by Kim and Park (2006) where parental expectation and pressure positively influenced their children's academic achievement among students in Korea. Here, parental expectations contributed

to an increase in the children's self-efficacy which led to enhanced performance.

Test Anxiety and Academic Achievement

For the purpose of this study, test anxiety is defined as the anxiety experienced by students in an assessment context such as a test or examination, which is a result of the fear of negative evaluation by others. Many studies have shown that there is a negative relationship between test anxiety and academic achievement (Rana and Mahmood, 2010; Mokashi, Gaonkar and Yadav, 2007) and others have found it to be associated with not just poor academic performance but also, low concentration and motivation, negative beliefs about the self, increased school dropout and general anxiety (e.g. Asghari et al., 2012). However, some studies have found test anxiety and study habits to be positively associated with academic success (e.g. Ergene 2011).

Thus, although studies have consistently highlighted a relationship between parental pressure and test anxiety and between test anxiety and academic achievement, the direction of these relationships is unclear and needs to be explored.

Methodology

Aims and hypotheses

The purpose of the current study is to explore whether test anxiety is the psychological route through which parental pressure influences academic achievement among students. Following the review of literature, three hypotheses were formulated:

1. Perceived parental pressure will be negatively related to academic achievement (H1).
2. Perceived parental pressure will be positively related to test anxiety (H2).
3. Test anxiety will be negatively related to academic achievement as (H3).
4. Overall, test Anxiety will have a mediating effect on the relationship between parental pressure and academic achievement (H4).

Design

An Ex-Post Facto Research Design was adopted, as there was no manipulation of variables by the researcher. Parental pressure was designated as the independent variable; academic achievement as the dependent variable and test anxiety as a potential mediator.

Participants

A sample of 100 students, 50 girls and 50 boys aged between 13 and 14 were selected. Participants came from middle class families (income in the range of 2-5 lakhs per annum) and attended two English-medium schools in Bangalore. Students with mental or behavioral disorders were not included in the sample. A convenience sampling method was used and it is therefore important to note that students did not all have an equal opportunity of being selected for the study.

Instruments for Data Collection

Parental pressure was measured using a sub scale of the Inventory of Parental Influence (IPI; Campbell, 1994); the Parental Pressure sub scale. The sub scale assessed parental pressure as a single measure rather than requesting responses from mother and father separately. The reliability of the inventory has been established using Cronbach's alpha (.76) and the measure has been used in a range of cross-national studies (Campbell, 1996).

Test Anxiety was measured using The Test Attitude Inventory (Spielberger, 1980). Respondents were asked to report how frequently they experience specific symptoms of anxiety before the commencement of an exam, during, and after the completion of an examination. The test-retest reliability coefficient if the inventory is 0.80. Cronbach coefficient alphas for the TAI Total scale were uniformly high for both males and females (.92 or higher). Concurrent validity has been established with Sarason's (1978) Test Anxiety Scale (TAS) at .82 for males and .83 for females and with Liebert and Morris's (1967) Worry and Emotionality Questionnaire (WEQ) at .75 for both males and females (Spielberger, 1980). Academic Achievement of each student was as-

essed by taking an average of the percentages obtained in the 2 most recent examinations. The average was taken in order to reduce the risk of confounding variables, such as poor health or environmental stressors, effecting performance.

Ethical Considerations

Informed consent from school staff and assent from students was obtained prior to the study commencing. Participants were provided with a consent form, which contained information about the study and reasons why students were being asked to take part. Students were made aware of the right to withdraw and their identities were kept confidential. The consent forms were completed in school and signed by the student and a member of school staff. They were then sent home in order to seek consent from parents. In addition, students were briefed on the study by a member of the research team and their assent to participate was again sought.

Procedure

Participants were asked to complete a socio-demographic profile in order to ensure the homogeneity of the sample. The Inventory of Parental Influence and Test Attitude Inventory were then administered and responses were scored according to the procedures detailed in the Administrator's Manuals. Data regarding the achievement of the students in their final two examinations was obtained from school records.

Data Analysis

Mediation Analysis was carried out for the purpose of the current study using the bootstrapping method (Preacher and Hayes, 2004). This method was selected as it does not assume that the sampling distribution of the indirect effect is normally distributed. According to this method, the original sample size (n=100) is repeatedly resampled from the obtained data set by employing the method of sampling with replacement. For each resample, coefficients of path a (relationship between perceived parental pressure and test anxiety) and path b (relationship between test anxiety and academic achievement) and the product

	Coefficient	SE	T	P
Relationship between Perceived Parental Pressure and Test Anxiety (Path a)	0.7206	0.1097	6.5662	0
Relationship between Test Anxiety and Academic Achievement (path b)	-0.642	0.1328	4.835	0
Total effect of Perceived Parental Pressure on Academic Achievement (path c)	-0.9774	0.1599	6.1129	0
Direct effect of Perceived Parental Pressure on Academic Achievement (path c')	-0.5147	0.1731	2.9734	0.0037

Table 1: Bootstrap Results of the Direct Effect of IV on mediator (path a), Direct Effect of mediator on DV (path b), Total Effect of IV on DV (path c) and Direct Effect of IV on DV (path c')

	Total	TA
Data	-.4627	-.4627
Boot	-.4568	-.4568
Bias	.0059	.0059
SE	.1050	.1050

Table 2: Indirect Effects of IV on DV through Proposed Mediator (path ab)

	Total	TA
Lower	-.6898	-.6898
Upper	-.2770	-.2770

Table 3: Bias Corrected Confidence Intervals

of the path coefficients (indirect effect) are estimated and recorded. The process was repeated 5000 times as recommended by Hayes (2009). An inference was then made about the size of the indirect effect in the population sampled by using the 5000 estimates to generate a 95 percent confidence interval.

Results

According to the Baron and Kenny's (1986) causal step approach, three conditions must be met before simple mediation can be said to occur.

1. The independent variable should significantly predict the dependent variable (path c). In this case, Parental Pressure significantly predicts Academic Achievement ($r = -0.97$, $p < 0.05$, $t = 6.1$).

2. The independent variable must significantly predict the mediator (path a). In this case, Parental Pressure significantly predicts Test Anxiety ($r = 0.72$, $p < 0.05$, $t = 6.5$).
3. The mediator must significantly predict the dependent variable (path b) and a previously significant relation between IV and DV should no longer be significant when the mediator is controlled (path c'). In this case, Test Anxiety significantly predicts Academic Achievement ($r = -0.64$, $p < 0.05$, $t = 4.8$) and the direct effect of IV on DV (path c' = -0.51 , $p < 0.05$, $t = 2.9$) has reduced significantly from the total effect of IV on DV (path c = -0.97 , $p < 0.05$, $t = 6.5$) which implies a mediating effect. However, path c' still remains significant which implies that there might be other variables or mediators other than Test Anxiety which could be operating between the IV and DV (Baron and Kenny, 1986). Other possible mediators could be a child's self esteem, their motivation levels, competence, aspirations and level of self confidence.

Table 1 reports the bootstrap results of the direct effects of the IV on mediator (path a), the direct effects of mediator on DV (path b), the total effects of IV on DV (path c) and the direct effect of IV on DV (path c').

According to Preacher and Hayes (2004), one of the limitations of the Baron and Kenny model is that it does not provide information on the degree of statistical difference that is required to be present between path c and path c' in order to conclude that mediation has occurred. Therefore,

the model of analysis recommended by Preacher and Hayes was also completed, through the application of a macro within the statistical analysis package: SPSS.

As part of this process, the sample size (in this case, 100) was taken each time with different values from the data set by using the method of sampling with replacement. In this case, 5000 resamples were used and the values of the indirect effect obtained each time fell in the range of -0.68 (Lower Limit at 95 percent level confidence) and -0.27 (Upper Limit at 95 percent level confidence) (see Table 2 and Table 3). This implies that since zero does not fall in between the 95 percent confidence interval, the indirect effect is not zero and hence, it is statistically significant. The total indirect effect through which Parental Pressure influences Academic Achievement is -0.4627. Figure 1 displays model of simple mediation obtained from the study.

Discussion

Results are discussed below, with reference to the study's four hypotheses.

Perceived parental pressure will be negatively related to academic achievement (H1)

The results of this study indicate that as parental pressure increased, students' academic achievement decreased. This finding supports hypothesis 1 that 'perceived parental pressure is negatively related to academic achievement' and is consistent with existing literature (e.g. Rogers, et al (2009); Campbell, 1994; Ketsetzis, Ryan and Adams, 1998).

Perceived parental pressure will be positively related to test anxiety (H2)

When students were found to perceive high levels of pressure from their parents, they also reported high levels of anxiety before an examination or a test. Students who perceived a high level of parental pressure reported that their parents had high expectations of them which in turn increased

their anxiety in instances where they did not perform well and that their parents placed a great deal of importance on grades and marks obtained in examinations, which made them feel tense in these contexts. These findings lend support to hypothesis 2 that 'perceived parental pressure is positively related to test anxiety'.

Similar outcomes have been found in other studies. For example, Chen, (2012) found parental pressure to be associated with worry and test irrelevant thinking and Putwain, et al (2010) found that parental pressure exerts both direct and indirect effects on test anxiety. Parental pressure exerted a direct effect on the worry and tension components of test anxiety and an indirect effect on test-irrelevant thinking component by increasing a student's personal performance-approach goal.

Test anxiety will be negatively related to academic achievement as (H3)

In the present study, higher test anxiety was associated with lower academic achievement. This finding lends support to hypothesis 3 that 'test anxiety is negatively related to academic achievement'. It is also consistent with existing research (e.g. Dawood, et. al., 2016).

Test Anxiety will have a mediating effect on the relationship between parental pressure and academic achievement (H4)

Overall, it was found that test anxiety was the psychological route through which parental pressure negatively influenced academic performance. This finding lends support to hypothesis 4 that 'test anxiety will have a mediating effect on the relationship between parental pressure and academic achievement'.

Conclusion

Limitations

As the research design was an Ex Post Facto design, extraneous variables such as the intelligence

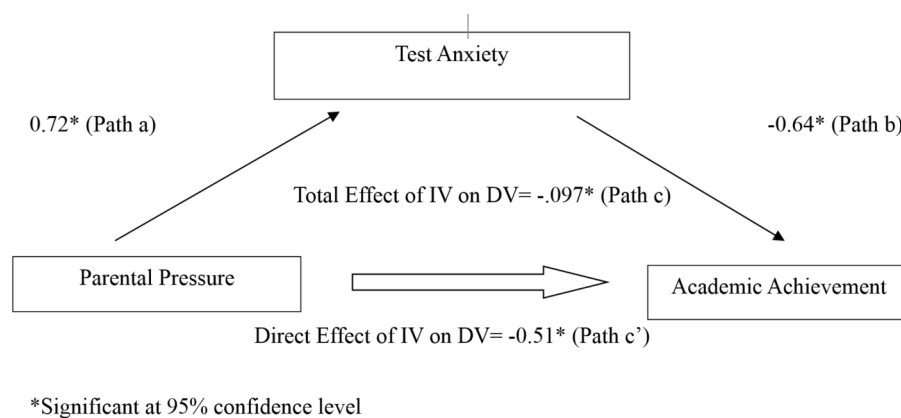


Figure 1: Mediation model for the effect of parental pressure on academic achievement with test anxiety as a mediator.

level of the students, level of their motivation to perform, studying patterns, and level of parental education were not controlled for. There is also a possibility that the students might not have shared their true personal experiences, instead seeking to provide socially desirable responses. As a non-probability sampling technique was used, there are chances that the sample may not be truly representative of the population. This limits scope for generalizing findings.

Implications

Parents play a pivotal role in the development of their children. However, the findings of this study suggest that when parents place too-great-an emphasis on grades and marks, students may feel nervous and perform poorly in examinations. Existing literature, suggests that parents can best support their children by emphasizing the importance of education, learning processes, understanding subject matter, hard work and discipline (Desforges and Abouchaar, 2003; Peixoto, 2012). The present study lends support to these suggestions. Moreover, it suggests that parents and teachers need to take up mutual responsibility for a student's academic progress by providing an environment of learning, support, assistance and encouragement both at home and at school.

Recommendations for Further Study

Further studies might consider whether other psychological factors, such as self-esteem, efficacy, motivation levels, aspirations and self-confidence mediate the relationship between parental involvement and achievement. In the future, longitudinal researches can also be conducted to look at cause effect relations between role of parents and level of success of their children in different sociocultural contexts. Future research could go beyond the traditional individualistic approach and seek to understand the role of family and parents in shaping child development.

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