

Direct and Indirect Impact of Perceived School Climate upon Student Outcomes

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Abstract

This research aims at investigating and comparing the direct and indirect impact of children's perceptions of school climate upon their academic performance and socioemotional adjustment. A model was developed in which children's perception of school climate was considered as the independent variable and student academic performance and socioemotional adjustment as the dependent variables. Within this model, three mediating variables were selected which were children's perceptions of parental involvement, academic motivation and student academic engagement. The mediators indicate three broad categories, i.e., school, home and student-specific variables, which facilitate comparing the significance of their role in the model. Data was collected from 324 students from Grades 7 and 9 and only the complete data from 268 cases (girls=126, boys=142) was analyzed. Two independent models were tested through path analysis. Findings revealed differential roles of the selected mediators for the student outcomes. This study presents a significantly useful model to understand the impact of school climate and provides baseline information for the implementation of the National Education Policy (2009), which focuses upon the improvement of learning environment of the schools. On the basis of findings, conclusion and recommendations have been presented.

Keywords: perceived school, climate mediators' impact, student academic, engagement academic performance, socioemotional adjustment

1. Introduction

Research reported various factors linked to student academic performance and adjustment such as interest, self-efficacy, learning, open communication with parents, school engagement, teacher effectiveness, evaluation systems, school environment, physical facilities, acceptance in school, student extrinsic motivation with high level of intrinsic motivation, teacher consultation, academic support by teachers and quality of interaction with parents and teachers (Studsrod & Bru, 2012; Olwatimilehin & Ovoyele, 2012; Wormington, Corpus, Anderson, & College, 2011; Chaturvedi, 2009; Ghazi, Azam, & Khan, 2009; Simons-Morton & Chen, 2009; Ochoa, Lopez, & Emler, 2007; Long, Monoi, Harper, Knoblauch, & Murphy, 2007; Adeyemo, 2005). These factors can be categorized under three broad categories mostly referred as student-specific variables, family background related and school related variables.

The three broad areas remain controversial factors for student outcomes across the research literature. Effect of schools emerged as an important area of organizational research and linked to student outcomes with the pioneer work by Coleman (1961, 1972). Coleman's studies revolved around relationship between social processes support systems in schools and achievement, importance of family background when compared to schools for achievement and the impact of school social system in public and private schools. It is noteworthy that a study by Coleman et al. (1966) lead to controversy about importance of school climate and socioeconomic factors, which triggered further studies in this area.

Findings regarding the comparative importance of school climate and student background vary across research the literature. Bulach, Malone, and Castelman (1995) found significant relationship of both school climate and socio-economic status with student academic achievement. Whereas, Kiamanesh (2005) found that self-concept and home background variables are more important for mathematics achievement for both girls and boys while school climate variables carried no significant contribution. Nichols and Nichols (2012) did not find school climate perception related differences for parents and children when data from high performing and low performing schools on mathematics and language was compared. Thus, research does not consistently report the same factors responsible for student academic performance and socioemotional adjustment.

School climate in relation to student adjustment has also been investigated. Gallay and Pong (2004) found importance of school climate for social adjustment from 5 to 12 grade students. Wang, Selman, Dishion and Stormshak (2010) reported that students' perception of school discipline and positive teacher student relationship was related to lower probability and frequency of behavioral problems. Despite of vast research on adjustment of children with reference to the school climate, role of factors other than school climate still need to be investigated. Various studies have had exclusive focus on variables related to family background variables and such studies revealed importance of these variables for adjustment of students (Mcevoy & Welker, 2000; Lakshmi & Arora, 2006; Raju & Rahamtullah, 2007).

In light of the above mentioned studies, importance of both school climate and student background variables can be considered as the competing variables because these variables can bring desirable changes in thoughts, feelings and behaviors of students which consequently involve them educational pursuits. At this point of the argument, importance of student specific variables enters into the theoretical framework.

Student variables have been widely investigated and found as related to each other and carry an effect on student outcomes. A study revealed that student self-concept was found important factor of achievement of students from Malaysia and Singapore (Ghagar, Othman, & Mohammadour, 2011). Ajayi, Lawani, and Modupe (2012) reported that both self-concept and academic motivation predicted the student attitudes towards mathematics. Awan, Noureen, and Naz (2011) found the significant positive relationship between achievement motivation and self-concept for Grade 9 students in Pakistani context. Chi (2008) found that self-concept directly influenced school adjustment while parental acceptance, autonomy and social support yielded indirect influence upon student adjustment. Studies have reported that students' academic beliefs and student perception of cognitive competence mediated between the relationship of perceived parental involvement and academic achievement (Chen & Ho, 2012; Topper, Keane, Shelton, & Calkins, 2011). Another study revealed that motivation predicted attitudes towards mathematics and student attitudes receive influences from teachers and peer social support (Mata, Monteiro, & Peixoto, 2012). Therefore, we can say that research consistently shows that self-concept is a student variable which is shaped by various factors including family related factors. Thus, family background factors affect various student-specific variables. This is one of the reasons that literature consistently shows importance of parental involvement and background variables for student adjustment.

Studies indicate the possibilities of the effect of school and family background variables on the student outcomes through student-specific variables. Opdenakker and Damme (2005) found that parental involvement in schooling affected math achievement but through student efforts. School climate variables as supportive teachers and clear/high expectations about behavior have also been reported to play key role in engaging students (Theresa, 2006). For low income families, parental involvement also predicted less child-teacher conflicts (Wyrick & Rudasill, 2009).

It is noteworthy that student academic engagement and academic performance might also affect their emotional adjustment because these variables may contribute in their personal satisfaction and social acceptance. Both school variables such as teacher support (Reddy, Rhodes, & Mulhall, 2003) and academic performance/grades (Farmer, Irvin, Thompson, Hutchins, & Lueng, 2006) have been found linked to student adjustment in middle schools. This shows that variety of factors and sources are responsible for student adjustment. Thus, we can say that there are numerous variables, which tend to affect and regulate student-specific variables.

There are various student-specific variables such as self-concept, aptitude, achievement motivation and effort which play crucial role to engage students in academics. Thus, student academic engagement can well indicate some ratio of these student characteristics which together lead to desirable learning behavior of the students. Importance of student engagement in academics for academic success and adjustment cannot be undermined and it can mediate between school and home related variables. An, Hanum, and Sargent (2008) found that student academic engagement predicted academic achievement and student academic engagement and was found to be linked to student perceptions of interactive classrooms, fair treatment of students by their teachers, perception of less homework and lesser disciplinary issues. This shows that there are various factors in schools other than family background variables responsible for engaging students and these relationships between variables make the model under investigation as a multi-model and perplexed.

It can be concluded that that variety of factors from schools, student background and student characteristics related to student academic performance and adjustment. With the emergence of concept of school climate, it is considered as a rival explanation to the background variables for student outcomes. However, it is noteworthy that student variables receive influences from both home and school, making influence of school and home indirect upon student outcomes.

The framework adopted for this study had children's perception of school climate rather than school climate as independent variable and this was in line with the phenomenological approaches, which value subjective rather than the objective perceptions. Children's perceptions of parental involvement was taken as a mediator but this

mediator and perception of school climate were also tested for their effect on student characteristics, the other two mediators, i.e., motivation and student academic engagement. Thus, this complex framework suited well to (a) investigate the role of school, family and student related variables for academic performance and socioemotional adjustment, (b) investigate role of academic engagement as mediator between children's perception of school climate and academic performance and emotional adjustment, when compared to parental involvement in children's education and academic motivation, (c) compare the role of mediating variables which carry effect upon each other and influence student outcomes, and (d) determine direct and indirect effect of student perceptions of school climate upon student outcomes. On the basis of the theoretical framework, Model 1 was developed. In this model, directions of paths were determined on the basis of previous studies.

This research aimed at assessing and comparing both direct and indirect influence of children's perception of school climate on their academic performance and adjustment. Taking children's perspective is important for following reasons. Firstly, on phenomenological grounds subjective thoughts and perceptions of the objective situations are more meaningful for individuals especially when we investigate the variables affecting their behaviors. Secondly, previous studies have shown importance of children's perceptions of school climate for their academic performance and adjustment (Jia et al., 2009). Finally, research has also indicated that children's and teachers' ratings about school climate were discrepant (Mitchell, Bradshaw, & Leef, 2010). These studies indicated importance of investigating children's perceptions with the exclusive focus.

Till date, this study is one of the initial studies in which all key variables are considered in a single framework to understand the importance of school climate and the competing factors of student academic performance and adjustment, thus providing a broader viewpoint to devise a strategy for school climate improvement. Here it is also important to provide conceptual clarity of the term 'impact' used in results section of this study, which does not indicate cause and effect relationship. Rather the term connote the influence or relationship between variables. However, it goes beyond simple correlation.

Findings of this study will support implementation of National Education Policy (Ministry of Education, 2009). The policy focuses upon improving learning and disciplinary environment of the schools, but without the adequate empirical evidence. Results of this study will provide baseline information for the implementation of National Education Policy with reference to necessary directions for the improvement of learning environment of the schools and for the large scale studies on school climate at national level.

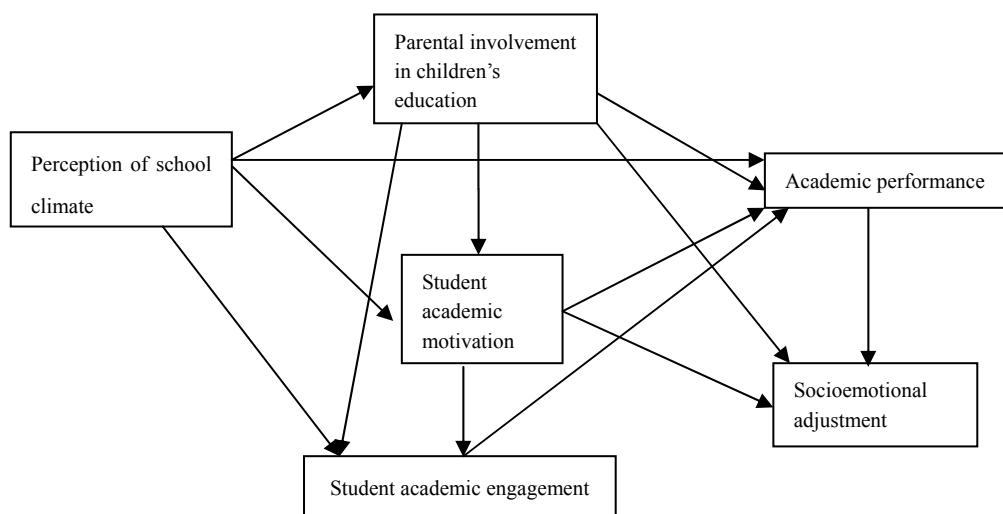


Figure 1. Theoretical framework of the study

2. Method

2.1 Sample

Data for the study was obtained from both private and government schools of Islamabad and Rawalpindi through the convenient sampling technique. Population of this study included all the middle and secondary school children of Islamabad and Rawalpindi. Data was collected from students of Grade 7 and Grade 9, which supported collecting the developmental perspective. Data was collected from children present at the time of researcher's visit to the schools for the data collection and all the students of the selected classes participated in a single session. This enabled obtaining data from children of varied intelligence, interests, attitude, aptitude, personality and academic achievement. Furthermore, data for this study was collected from both girls and boys of private and public schools. Total number of sample was 324. Their age ranged between 12-14 year with mean

of 13 and standard deviation was 1. Only complete data was retained for main analysis, because teacher report of social behavior about 51 students was not returned. Therefore, complete data of 268 cases entered into the final analysis. In this data, 126 cases were of girls and 142 cases were of boys. This sample size was satisfactory as between 100-200, is considered as medium sample ("Structural Equation," 2010). Power of the study is very much dependent upon the sample size. Generally, 10 cases per parameter estimation are considered for sample planning (Marcoulides, Chin, & Saunders, 2009). Considering this rule of the thumb, present sample size was considered appropriate to support power of the study.

2.2 Assessment

Measures of the study included Checklist of Social Behavior, translated version of Index of Self-Esteem, translated version of Index of Peer Relation, Children's Manifest Anxiety Scale, Perceived School Climate Scale (Urdu versions), Academic Motivation Scale, Student Academic Engagement Scale and Parental Involvement in Children's Education Scale. Furthermore, academic performance was assessed through students' grades obtained in recent and one last exam. Below given are the details of the measures utilized in this study.

1) Social Adjustment

Two measures were used to assess social adjustment of children. One was a self-report measure for children and the other was teacher report measure about the students. This enabled (a) minimizing common method variance, and (b) determining and comparing any change in results/findings due to change of informant.

Teacher Checklist of Social Behavior comprised of 13 items (Mushtaq, 2008). Half of the items measure aggression and half of the items measure prosocial behavior in children. Another measure was children self-report measure, i.e., Index of Peer Relations (IPR; Khurshid, 2003) was utilized to assess social adjustment of children. It comprised of 25 items with 12 items as negatively scored. The score ranged from 25-125 (median=75).

2) Emotional Adjustment

A separate measure was utilized to assess emotional adjustment of children, i.e., Index of Self-esteem (ISE; Khurshid, 2003). It comprised of 23 items having 10 items as negatively phrased. The score on this scale ranged from 23-115 (median=69). This scale was selected because its items assess loneliness, anxiety, confidence, popularity, self-image and self-acceptance. Thus, this measure was found to be comprehensive tool to assess both (a) various aspects of emotional adjustment, and (b) and sources of high/low self-esteem of children. Furthermore, its items on loneliness and social anxiety indicate social adjustment of children. Both IPR and ISE include items on loneliness, which is the indicator of social relationship with peers.

3) Social Desirability

Social desirability was assessed with the help of translated version of Lie Scale of Revised Children's Manifest Anxiety Scale (Iqbal, 2008). It comprised of 5 items with score ranging from 5-25 (median=15).

4) Perception of School Climate

Perceived School Climate Scale (PSCS) comprised of 43 items with 23 items as negatively scored was utilized. It comprised of five dimensions named as Teaching Problems (comprised of 12 items, score range=12-60, median=36), Teacher and Principal Concern (comprised of 14 items, score range=14-70, median=42), Authoritarian Disciplining (comprised of 7 items, score range=7-35, median=21), Basic Facilities (comprised of 6 items, score range= 6-30, median=18), and Physical Limitations (comprised of 4 items, score range=4-20, median=12). Out of these five dimensions, only second and forth factor depicted positive aspects of school climate. Whereas, high scores on first, third and fifth factor of PSCS depicted unsatisfactory aspects of school climate (Zahid, 2013). Score on the scale ranged from 43-215.

5) Student Academic Engagement

Student Academic Engagement Scale (Zahid, 2013) was used in this study to assess middle and secondary school students' engagement in academics. It comprised of 23 items with 8 items as negatively scored. Score on the scale ranged from 23-115. Five dimensions of SAES were Liking School (comprised of 4 items, score range=4-20, median=12), Self-Regulation (comprised of 4 items, score range 4-20, median=12), Performance Concerns (comprised of 7 items, score range=7-35, median=21), Interest in Academic Work (comprised of 4 items, score range=4-20, median=12) and Active Classroom Responding (comprised of 4 items, score range=4-20, median=12).

6) Academic Motivation

Academic motivation of students was assessed with the help of Academic Motivation Scale (Zahid, 2013). It comprised of 22 items and two dimensions. These dimensions are Extrinsic motivation (comprised of 10 items, score ranged from 10-50, median=30) and Intrinsic Motivation (comprised of 12 items, score ranged from 12-60,

median=36).

7) Parent Involvement in Children's Education

Parental Involvement in Children's Education (PICES) was used to assess the extent to which children perceive their parents to be involved in their education (Zahid, 2013). It is comprised of 18 items with 3 out of them as negatively phrased. The score on the scale ranged from 18-90. Four dimensions of PICES were School-based Involvement (comprised of 6 items, score range=6-30, median=18), Academic socialization (comprised of 5 items, score range=5-25, median=15), Home-based Involvement (comprised of 4 items, score range 4-20, median=12) and Parental Support (comprised of 3 items, score range=3-15, median=9).

8) Academic Performance

Academic performance was assessed through the total percentages of middle and secondary school children in their last examination. Total score ranged from 27-90 percent with mean as 55 (median=58.5).

Same five point rating scale was applied to every single measure of this study, thus items were rated on five point rating, ranging from Score 5 indicated "*Strongly agree*", Score 4 indicated "*Agree*", Score 3 indicated "*Cannot say*", Score 2 indicated "*Disagree*" and Score 1 indicated "*Strongly disagree*".

The factors of scales were mixed up randomly, which aimed at both randomization and facilitate statistical analysis. Items on student outcome variables appeared at the end, but their items rather were mixed up randomly. This could lead to response bias due to carry-over effects. Therefore, items of lie scale appeared at the end of the draft which determined the extent to which respondents carefully responded to the items and rated without carry-over effects.

3. Procedure

The researcher took formal permission from National Institute of Psychology (Quaid-i-Azam University) to administer measures selected to assess socioemotional adjustment. These measures included Revised Children's Manifest Anxiety Scale (Iqbal, 2008), Teacher Checklist of Social Behavior (Mushtaq, 2008) and translated versions of Index of Self-Esteem (Khurshid, 2003) and Index of Peer Relation (Khurshid, 2003).

Researcher also took formal permission from the Ministry of Education (Islamabad) and Education Department of Rawalpindi to administer measures on children. After taking permission from school principals, children were briefed about the purpose of the study. They were further assured that the data will be used for the purpose of research only and will remain confidential. Each administration of the draft (having all items of the measures of the study) on children took 35-55 minutes, with mean time of 45 minutes. Principals were requested to allow the researcher only during data collection, because presence of teacher could affect the degree of children's genuine responses about perceptions of their schools.

Later on, children's total percentages of the previous examination were taken from the class teachers or in-charge teachers. Again the percentages of those children were taken from whom the data was collected prior to this.

Finally, data about children's social behavior (those children who participated in this study (by responding on PSCS) was collected from the class teachers ($n=15$) of children. Thus, teachers reported about student social behavior by completing the Checklist of Social Behavior, mentioned earlier (Instrument Section). After data collection from teachers, they were requested to identify those students who have had any serious physical, psychological and social problems. Only a teacher from one private school identified two children of Grade 9 as having serious physical problems. Data collected from these children was not included in main analyses. This strategy helped to rule out possible factors other than perceived school climate, which can impact social and emotional adjustment of children, and thus provided confidence for the interpretation of findings.

4. Results

Analyses were carried out with the help of the two statistical programs, i.e., Statistical Package for Social Sciences (SPSS; Meulman, & Heiser, 2004) and SPSS Analysis of Moment Structures (AMOS; Arbuckle, 2007). Analyses were carried out in two steps, in order to draw out the results.

At first step, preliminary analyses were conducted to (a) determine the extent of social desirability affected responses on the measures of this study, and (b) determine the relationship between the study variables.

Findings revealed that the lie score yielded significant negative correlation with both the Index of Peer Relation and Index of Self-esteem. Though the high score on lie scale shows social desirability, but inverse correlation with measures of adjustment shows that participants read the items of the booklet carefully. This shows that participants of this study carefully responded on the items presented to them in a form of a single draft. Furthermore, IPR and ISE were found positively related. This differential pattern of correlations supported validity of the data.

Inter-correlations between the study variables were also explored before the main analyses. Other than

relationship of the study variables with extrinsic motivation and lie score, positive inter-correlations were expected. Findings were in line with the expected directions which supported validity of the data. Furthermore, it was also interesting to note that the data collected from sources other than children (academic results and teacher reports), the relationship of lie score was non-significant. It is important to note that majority of the inter-correlations were found significant. Therefore, the total scores of the variables were considered for model testing (Figures 2 & 3).

It is important to note the mean scores on five dimensions of Perceived School Climate Scale. Means scores were 44.1 (SD=9.1), 53.4 (SD=9.5), 24.0 (SD=6.1), 18.0 (SD=5.6) and 11.2 (SD=3.5) for factors Teaching Problems, Teacher and Principal Concerns, Authoritarian Disciplining, Basic facilities and Physical Limitation respectively.

After preliminary analyses mediational model was tested with the help of AMOS, which determined the direct and indirect impact of perception of school climate upon student outcomes.

5. Interpretation of the Models

Findings of path analysis were interpreted with reference to guidelines by Meyers, Gamst, and Guarino (2006). They indicated the criterion for model fit as (a) non-significant chi-square statistic, which shows good match between the proposed and observed model, (b) Normed Fit Index (NFI) and Comparative Fit Index (CFI) above .95, indicating fit of proposed model when compared to the independence model, and (c) Root Mean Square Error of Approximation (RMSEA) less than .08 indicating good fit, between .08 to .1 a moderate fit and greater than .1 as poor fit. Furthermore, Meyers et al. (2006) cautioned against interpretation of analyses solely on the basis of chi-square value, because this value can vary with sample size (pp. 631-634). In short, these criteria of interpretation allow us to determine the extent to which the model being tested is supported statistically. It is noteworthy that, such testing demands that a proposed model should be developed on sound theoretical grounds in order to interpret the statistical results with confidence. Next given are the results of main analyses.

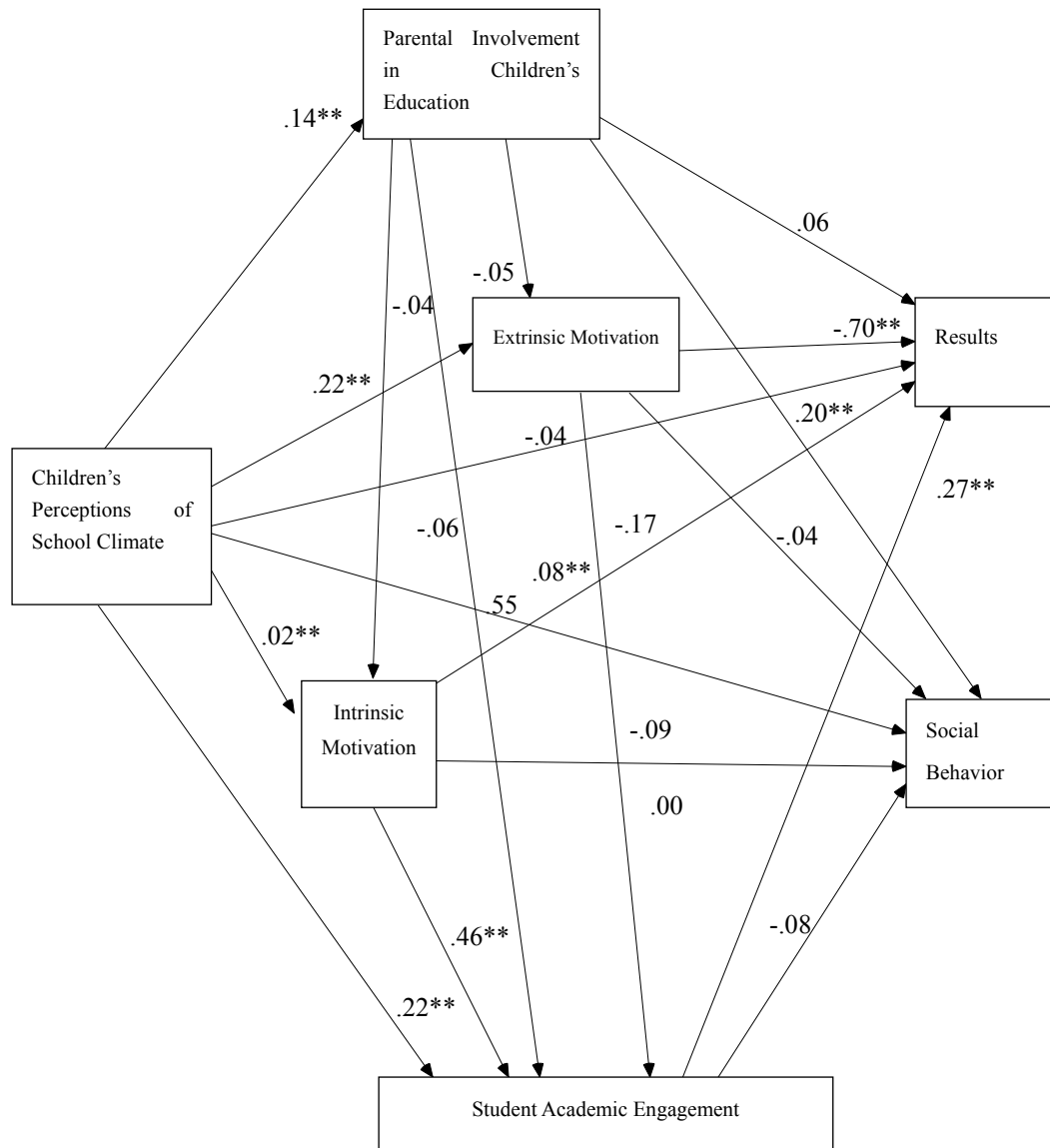


Figure 2. Testing model to determine the direct and indirect impact of children's perceptions of school climate upon their academic performance and social adjustment

The statistical indices of the Figure 2 revealed that it was fit for the interpretation. The chi-square of the model was found non-significant ($\chi^2=0.03$; $df=1$). Both the NFI and CFI were 1 and RMSEA was .00. Findings revealed that children's perceptions of school climate affected academic performance of children through student academic engagement rather than directly. However, children's perception of school climate exerted both the direct and indirect affect upon social adjustment of children when rating of children's social adjustment taken from their teachers. The indirect impact upon social adjustment was through parental involvement in children's education. Finally, intrinsic motivation impacted academic performance through student academic engagement.

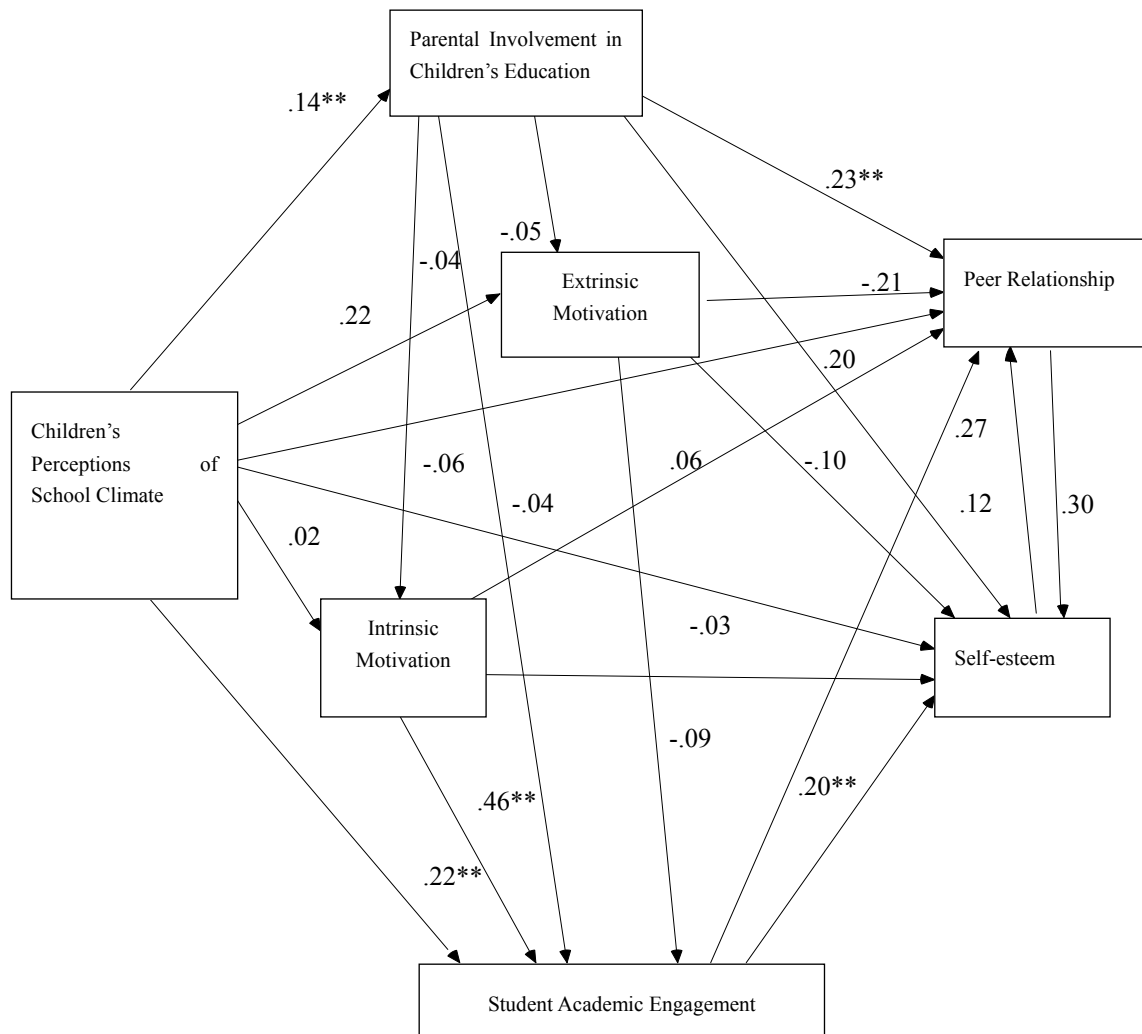


Figure 3. Testing model to determine the direct and indirect impact of children's perceptions of school climate upon their self-report of socioemotional adjustment

The statistical indices of the Figure 3 revealed that the model was moderately fit. The chi-square was non-significant ($\chi^2=3.55$, $df=1$), NFI and CFI were .99 and RMSEA was .1. The model revealed that children's perceptions of school climate yielded indirect impact upon emotional adjustment of students through student academic engagement. However, children's perception of school climate exerted direct impact upon social adjustment, and indirect impact upon their self-reported social adjustment through parental involvement in children's education.

6. Discussion

Two models taking into account the total scores of variables were tested (Figures 2 & 3). The models tested both the direct and indirect effect of children's perceptions of school climate upon the selected outcomes. Role of mediating variables was compared to determine the significant mediators between children's perceptions of school climate and student outcomes.

Children's perceptions of school climate significantly affect academic performance only through student academic engagement rather than directly. Results were consistent with those of An, Hannum, and Sargent (2008), in which student academic engagement (confidence and less alienation) predicted academic achievement in Rural Northwest China. Similarly, Hudley, Daoud, Polanco, Wright-Castro, and Hershberg (2004) showed the relation between perceived school climate and student academic engagement for Anglos and Latinos. Wang and Holcombe (2010) also highlighted that students' perceptions of school characteristics in seventh graders influenced their school and academic engagement and that in turn, influenced students' academic achievement in eighth grade.

Children's perception of school climate was found to have inverse and non-significant affect upon academic

performance. One of the possible reasons might be that children do perceive prevalence of teaching problems and harsh disciplinary styles in the schools. These results supported those by Dahr, Dahr, Dahr, and Faize (2011), as they have reported low teaching quality in schools of Punjab. They further emphasized that low level of teacher training courses produce teachers with low quality. Thus, findings of this study support and extend those of previous studies which indicate low levels of teacher quality.

Importance of teaching quality for students is evident from various other studies. Guthrie, Wigfield, and VonSecker (2000) highlighted the effectiveness of student-centered methods of teaching. Similarly, Guthrie et al. (2000) found the significance of Concept-Oriented Teaching Instruction (CORI) for motivating third through fifth grade students. Ofoegbu (2004) also found teacher motivation as a vital factor for classroom effectiveness and school improvement in primary and secondary schools of Nigeria. Furthermore, Oredein and Oloyede (2007) pointed out the importance of teaching quality and supervision, as they significantly affect student academic performance in secondary schools of Nigeria. Results of the present study indicated that, these positive aspects might not prevail or prevail less than the desirable level in the sample schools. These findings suggest that there is a possibility that by improving teaching and disciplinary issues and techniques, school climate might directly influence student academic performance.

Findings of this study indicated that intrinsic motivation plays a significant role as a mediator between children's perception of school climate and student academic engagement. Intrinsic motivation did not impact academic performance and social adjustment directly. One of the possible reasons might be that teaching quality in the sample schools is not up to the mark. In connection to this, findings by Opdenakker and Damme (2006) are worth mentioning who highlighted the importance of learner-centered teaching style as it provides higher opportunity to learn, in secondary schools of Flanders. Thus, importance of teaching quality cannot be ignored for motivating students and improving school climate in the sample schools.

The differential importance of aspects of school climate is also evident from the fact that school climate was found to be directly related to self-reported ratings of peer relationships and reports of teacher about children's social behavior. Here concern arises regarding the underlying reasons for the non-significant direct effect of children's perception of school climate upon academic performance, which was contrary for their social adjustment. Perhaps the closer look at the components of school climate explains that. Teacher and Principal Concern is the positive aspect of school climate which seems to affect the social relationships of children but low teaching quality might be a reason for the indirect rather than direct effect of school climate upon academic performance.

Findings of the study further indicated importance of intrinsic motivation for engaging children in academics and for good academic performance. However, it does not play a direct role of mediator between children's perceptions of school climate and academic performance. Furthermore negative extrinsic motivation plays significant inverse role as a mediator between children's perceptions of school climate and academic performance. This suggests (a) intrinsic motivation is different concept from academic engagement, (b) schools should utilize techniques to intrinsically motivate children and should minimize the use of extrinsic motivation techniques, and (c) the sample schools affect student outcomes through engaging them in academics rather than intrinsically motivating them.

Findings were in line with those by Halawah (2006), who found the strong and positive relationship between motivation and student characteristics for high school students of Abu Dabi. In another study, researchers found strong relationship between self-reported motivation orientations with actual achievement for middle school students of New Zealand (Meyer, McClure, Walkey, Weir, & McKenzie, 2009). However, in the present study the direct effect of intrinsic motivation upon academic performance was not found. The significant inverse relationship of extrinsic motivation with all the study variables except with social behavior (assessed by teacher) indicates that extrinsically motivating children will lower their academic engagement, academic performance, peer relationship and emotional adjustment.

Results show that path model provides broader perspective regarding the interrelationship between the study variables when compared to that of correlational analysis. The role of mediators having influence on one another also emerged in the path analyses. Findings show that parental involvement in children's education can be considered as an alternative source to school climate for intrinsically motivating and engaging children in academics. This suggests that in order to improve academic performance, schools should involve parents in those initiatives which aim to improve academic performance of children.

Figure 2 further revealed that parental involvement in children's education played a role of mediator between children's perceptions of school climate and social adjustment rather than student academic engagement. This supported differential role of mediators for different outcomes. Differential role of mediators was re-examined as shown in Figure 3, in which scores of socioemotional adjustment based on assessment by children rather than teachers were considered (contrary to Figure 2). Findings indicated that student academic engagement played

significant positive role between children's perception of school climate and emotional adjustment rather than social adjustment. Parental involvement in children's education played significant role as a mediator only between children's perception of school climate and their social adjustment and this finding was consistent in both the Figures 2 and 3. Perhaps one of the reasons is that due to parental involvement in children's education, students get adjusted in schools, which in-turn affects their self-esteem, relationships with friends, peers and teachers positively. It is important to note that Hill and Tyson (2009) identified three important dimensions of parental involvement in children's education namely their involvement in school based activities, home based activities and academic socialization. Importance of these aspects of parental involvement can be considered as essential for socioemotional adjustment of children as they can positively influence their academic self-concept and extend social support for children.

Most interesting finding of this study is that both the Figures 2 and 3 show both the direct and indirect influence of children's perceptions of school climate upon their peer relationship and social behavior. This might be due to the positive component of school climate, i.e., Teacher and Principal Concern.

7. Conclusion

Results provide significant information and direction for school improvement through understanding school climate and its role for student outcomes. School climate in our context has both positive aspects and weaknesses, which differentially influences academic performance, social adjustment and emotional adjustment of children. If the weaknesses of school climate are worked upon, direct and strong positive relationship of school climate with student outcomes may improve. Schools should utilize all strategies for engaging students academically and to involve parents in their children's education. This study can have practical implications if school improvement models are developed on the basis of its findings. Only after the assessment, intervention plans can be developed and National Education Policy by Ministry of Education (2009) can be implemented to improve learning environment of the schools.

There are certain limitations of this study too. Results cannot be confidently generalized to all the schools of Islamabad and Rawalpindi due to convenient sampling. At the same time, we cannot ignore the fact that schools' climate in a country may not be remarkably different because it receives influence from the implementation of national education policies. This opens further avenues for research.

For further studies, longitudinal data is suggested for testing the mediational models and advance analyses to determine the interactive effects of variables. Despite of these shortcomings, this study can be considered as a beginning research to test effect of school climate through utilizing the broad theoretical framework especially from Pakistani context.

References

- Adeyemo, D. A. (2005). Parental involvement, interest in schooling and school environment as predictors of academic self-efficacy among fresh secondary school students in Oyo State, Nigeria. *Electronic Journal of Research in Educational Psychology*, 3(1), 163-180. Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ846201&ERICExtSearch_SearchType_0=no&accno=EJ846201
- Ajayi, O. K., Lawani, O. A., & Modupe, O. P. (2012). The influences of self-concept and academic motivation on students' attitude to mathematics in selected secondary schools in Ogun State, Nigeria. *European Journal of Scientific Research*, 3(67), 444-455. Retrieved from http://www.europeanjournalofscientificresearch.com/ISSUES/EJSR_67_3_11.pdf
- An, X., Hannum, E. C., & Sargent, T. (2008). *Teaching quality and student outcomes: Academic achievement and educational engagement in Rural Northwest China*. Retrieved from http://repository.upenn.edu/cgi/viewcontent.cgi?article=1004&context=gansu_papers
- Arbuckle, J. L. (2007). *Amos 16.0 user guide*. Chicago: Amos Development Cooperation.
- Awan, R., Noreen, G., & Naz, A. (2011). A study of relationship between achievement motivation, self-concept and achievement in English and Mathematics at secondary level. *International Education Studies*, 4(3). <http://dx.doi.org/10.5539/ies.v4n3p72>
- Bulach, C. R., Malone, B., & Castleman, C. (1995). An investigation of variables related to student achievement. *Midwestern Educational Researcher*, 8(2), 23-29. Retrieved from <http://www.westga.edu/~cbulach/sclimate/INV.htm>
- Chaturvedi, M. (2009). School environment, achievement motivation and academic achievement. *Indian Journal of Social Science Researches*, 6(2), 29-37. Retrieved from <http://ijssr.110mb.com/ijssr-oct-09/4-mamta.pdf>
- Chen, W., & Ho, H. (2012). The relation between perceived parental involvement and academic achievement:

- The roles of Taiwanese students' academic beliefs and filial piety. *International Journal of Psychology*, 47(4), 315-324. Retrieved from http://www.ingentaconnect.com/content/psych/pijp/2012/00000047/00000004/art00008#aff_2; <http://dx.doi.org/10.1080/00207594.2011.630004>
- Chi, T. H. (2008). *Causal relationships between school adjustment of middle school students and related variables*. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18604155>
- Coleman, J. S. (1961). *The adolescent society*. New York: The Free Press.
- Coleman, J. S. (1972). The evaluation of "quality of educational opportunity. In F. Mosteller, & D. P. Monahan (Eds.), *On equality of educational opportunity*. Washington, DC: U.S Government Printing office.
- Coleman, J. S., Campbell, W. Q., Hobson, C. J., McPartland, J., Mood, A., Weinfield, F. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.
- Dahar, M. A., Dahar, R. T., Dahar, R. A., & Faize, F. A. (2011). Impact of teacher quality on the academic achievement of students at secondary stage in Punjab (Pakistan). *European Journal of Social Sciences*, 19(1), 97-105. Retrieved from http://dc312.4shared.com/doc/E_RpPDLg/preview.html
- Farmer, T. W., Irvin, M. J., Thompson, J. H., Hutchins, B. C., & Leung, M. (2006). School adjustment and the academic success of Rural African American early adolescents in the deep south. *Journal of Research in Rural Education*, 21(3), 1-14. Retrieved from <http://www.jrre.psu.edu/articles/21-3.pdf>
- Gallay, L., & Pong, S. (2004, May). *School climate and students' intervention strategies*. Paper presented at the Society for Prevention Research Annual Meeting, Quebec City.
- Ghagar, M. N. A., Othman, R., & Mohammadpour, E. (2011). Multilevel analysis of achievement in mathematics of Malaysian and Singaporean students. *Journal of Educational Psychology and Counseling*, (2), 285-304. Retrieved from <http://eprints.utm.my/13393/1/IEPC-2011-2-011.pdf>
- Ghazi, S. R., Azam, M., & Khan, M. (2009). Causes of high, average and low academic achievements of institutions in B.I.S.E result 2009. *Abasyn University Journal of Social Science*, 3(2), 57-62. Retrieved from <http://www.abasynuniv.edu.pk/Abasyn%20Journal%20Vol.%204%20No.%202,%202009/Abasyn-3.pdf>
- Guthrie, J. T., Wigfield, A., & VonSecker, C. (2000). Effects of integrated instruction on motivation and strategy using in reading. *Journal of Educational Psychology*, 92(2), 331-341. <http://dx.doi.org/10.1037/0022-0663.92.2.331>
- Halawah, I. (2006). The effect of motivation, family environment, and student characteristics on academic achievement. *Journal of Instructional Psychology*. Retrieved from http://findarticles.com/p/articles/mi_m0FCG/is_2_33/ai_n16608929/pg_2/?tag=content;coll
- Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, 45(3), 740-763. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2782391/>; <http://dx.doi.org/10.1037/a0015362>
- Hudley, C., Daoud, A., Polanco, T., Wright-Castro, R., & Hershberg, R. (2004). *Student engagement, school climate, and future expectations in high school*. Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED475590&ERICExtSearch_SearchType_0=no&accno=ED475590
- Iqbal, F. (2008). *Relationship of shyness and anxiety with school social behavior among adolescents* (Unpublished M.Phil dissertation). National Institute of Psychology, Quaid-e-Azam University, Islamabad, Pakistan.
- Jia, Y., Way, N., Ling, G., Yoshikawa, H., Chen, X., Hughes, D., ... Lu, Z. (2009). The influence of student perceptions of school climate on socioemotional and academic adjustment: A comparison of Chinese and American adolescents. *Child Development*, 80(5), 1514-1530. <http://dx.doi.org/10.1111/j.1467-8624.2009.01348.x>
- Khurshid, M. (2003). *Role of family and peer relations on the self-esteem of juvenile relations on the self-esteem of juvenile delinquency* (Unpublished M.Phil Dissertation). National Institute of Psychology, Quaid-e-Azam University, Islamabad, Pakistan.
- Kiamanesh, A. R. (2004). *Factors affecting Iranian students' achievement in mathematics*. Retrieved from http://www.iea.nl/fileadmin/user_upload/IRC/IRC_2004/Papers/IRC2004_Kiamanesh.pdf
- Lakshmi, A. R., & Arora, M. (2006). Perceived parental behavior as related to student's academic school success and competence. *Journal of the Indian Academy of Applied Psychology*, 32(1), 47-52. Retrieved from <http://medind.nic.in/jak/t06/i1/jakt06i1p53.pdf>

- Long, J. F., Monoi, S., Harper, B., Knoblauch, D., & Murphy, P. K. (2007). Academic motivation and achievement among urban adolescents. *Urban Education*, 42(3), 196-222. Retrieved from http://academic.csuohio.edu/harper_b/Urban%20Ed%20article.pdf; <http://dx.doi.org/10.1177/0042085907300447>
- Marcoulides, G. A., Chin, W. W., & Saunders, C. (2009). A critical look at partial least square modeling. *MIS Quarterly*, 33(1), 171-175.
- Mata, M. L., Monteiro, V., & Peixoto, F. (2012). Attitudes towards Mathematics: Effects of individual, motivational, and social support factors. *Child Development Research*, 1-10. <http://dx.doi.org/10.1155/2012/876028>
- Mcevoy, A., & Welker, R. (2000). Antisocial behavior, academic failure, and school climate: A critical review. *Journal of Emotional and Behavioral Disorders*, 8(3). <http://dx.doi.org/10.1177/106342660000800301>
- Meulman, J. J., & Heiser, W. J. (2004). SPSS Categories® 13.0. Chicago: SPSS Inc.
- Meyer, L. H., McClure, J., Walkey, F., Weir, K. F., & McKenzie, L. (2009). Secondary student motivation orientations and standards-based achievement outcomes. *British Journal of Educational Psychology*, 79(2), 273-293. <http://dx.doi.org/10.1348/000709908X354591>
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks: Sage Publishers.
- Ministry of Education; Government of Pakistan. (2009). *National education policy*. Retrieved from http://www.pakdocs.com/wp-content/uploads/2012/08/National_Education_Policy_2009.pdf
- Mitchell, M. M., Bradshaw, C. P., & Leef, P. J. (2010). Student and Teacher Perceptions of School Climate: A Multilevel Exploration of Patterns of Discrepancy. *Journal of School Health*, 80(6). Retrieved from <http://donnieholland.wiki.westga.edu/file/view/Student%26Teacher+perception+of+school+climate.pdf>; <http://dx.doi.org/10.1111/j.1746-1561.2010.00501.x>
- Mushtaq, A. (2008). *Aggressive children's status among peers and their social information processing style* (Unpublished M-Phil thesis). National Institute of Psychology, Quaid-e-Azam University. Islamabad, Pakistan.
- Nichols, G. W., & Nichols, J. D. (2012). An Analysis of Student and Parent Perceptions: School Climate Surveys for the Public Good. *Scholarly partnerships edu.*, 6(1), 13-24. Retrieved from <http://opus.ipfw.edu/cgi/viewcontent.cgi?article=1067&context=spe>
- Ochoa, G. M., Lopez, E. E., & Emler, N. P. (2007). Adjustment problems in the family and school contexts, attitude towards authority, and violent behavior at school in adolescence. *Adolescence*, 42(16), 781-797.
- Ofoegbu, F. I. (2004). Teacher motivation: A factor for classroom effectiveness and school improvement in Nigeria. *College Student Journal*, 38(1), 81-89. Retrieved from http://findarticles.com/p/articles/mi_m0FCR/is_1_38/ai_n6073200
- Olwatimilehin, J. T., & Ovoyele, J. W. (2012). Study habits and academic achievement in core subjects among junior secondary school students in ONDO State, Nigeria. *Bulgarian Journal of Science and Education Policy (BJSEP)*, 6(1), 155-169. Retrieved from <http://bjsep.org/getfile.php?id=112>
- Opdenakker, M. C., & Damme, J. V. (2005). Enhancing effort and achievement: The importance of parent involvement and home-school partnerships. *Journal of Educational Administration*. Retrieved from http://www.ice.deusto.es/RINACE/reice/Vol3n1_e/OpdenakkerVanDamme.pdf
- Oredein, O. A., & Oloyede, O. D. (2007). Supervision and quality of teaching personnel effects on students' academic performance. *Educational Research and Review*, 2(3), 32-35.
- Raju, M. V., & Rahamtulla, T. K. (2007). Adjustment problems among school students. *Journal of Indian Academy of Applied Psychology*, 33(1), 73-79.
- Reddy, R., Rhodes, J. E., & Mulhall, P. (2003). The influence of teacher support on student adjustment in the middle school years: A latent growth curve study. *Development and Psychopathology*, 15(1), 119-138. Retrieved from <http://www.rhodeslab.org/files/teachersupport.pdf>; <http://dx.doi.org/10.1017/S0954579403000075>
- Simons-Morton, B., & Chen, R. (2009). Parent and peer influences on school engagement among early adolescents. *Youth & Sociology*, 41(1), 3-25. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2771453/>; <http://dx.doi.org/10.1177/0044118X09334861>
- Structural equation modeling (SEM) or path analysis*. (2010). Retrieved from <http://afni.nimh.nih.gov/sscc/gangc/PathAna.html>

- Studsrod, I., & Bru, E. (2012). Upper secondary school students' perceptions of teacher socialization practices and reports of school adjustment. *School Psychology International*, 33(3), 308-324. Retrieved from <http://spi.sagepub.com/content/33/3/308.short>; <http://dx.doi.org/10.1177/0143034311412841>
- Theresa, A. M. (2006). *School context, student attitudes and behavior, and academic achievement: An exploratory analysis*. Retrieved from http://www.mdrc.org/sites/default/files/full_519.pdf
- Toper, D. R., Keane, S. P., Shelton, T. L., & Calkins, S. D. (2011). Parent involvement and student academic performance: A multiple meditational analysis. *Journal of Prevention & Intervention in the Community*, 38(3), 183-197. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3020099/>; <http://dx.doi.org/10.1080/10852352.2010.486297>
- Wang, M., Selman, R., Dishion, T., & Stormshak, E. (2010). A tobit regression analysis of the covariation between middle school students' perceived school climate and behavioral problems. *Journal of Research on Adolescence*, 20(2), 274-286. <http://dx.doi.org/10.1111/j.1532-7795.2010.00648.x>
- Wang, T. M., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Education Research Journal*, 47(3), 633-662. <http://dx.doi.org/10.3102/0002831209361209>
- Wormington, S. V., Corpus, J. H., Anderson, K. G., & College, R. (2011, April). *A person-centered investigation of academic motivation, performance, and engagement in a High school setting*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans. Retrieved from http://academic.reed.edu/motivation/docs/WormingtonCorpus_AERA.pdf
- Wyrick, A. J., & Rudasill, K. M. (2009). *Parent involvement as a predictor of teacher-child relationship in third grade*. Retrieved from <http://digitalcommons.unl.edu/edpsychpapers/127/>
- Zahid, G. (2013). *Impact of perceived school climate upon student outcomes: Differential role of mediating variables*. (Unpublished doctoral dissertation). National institute of Psychology, Quaid-e-Azam University, Islamabad.

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