

Case Study: Factors Affecting the Behavior of School Students in the Age of Pre-Adolescence

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Abstract

Using multilevel modeling, this study sought to understand the factors affecting the behaviour of school students at the age of pre-adolescence. The study included 1977 pre-adolescents (1031 boys, 946 girls) from middle schools (Grades 4–7) in suburban areas of the United States from the Department of Children and Family (DCF) 2014 National Child and Youth Panel Survey database. The individual and environmental effects of significant factors affecting pre-adolescent behavior were studied using multilevel models. Among the characteristics linked to emotional-behavioral difficulties were BMI, study tendency, and socioeconomic status. Emotional-behavioral disorders were linked to connections with teachers, according to more studies. The school, family, friends, community, and media all negatively affect students' conduct. As a result, similar educational institutions should teach students social and emotional skills. This may help reduce student disruption. Individual and environmental factors influence pre-adolescents' emotional-behavioral issues. Preventing emotional-behavioral issues require addressing both the environment in which preadolescents live and their unique traits.

Keywords— Preadolescents, Emotional-behavioral problems, Factors, Behavior

I. INTRODUCTION

After early infancy and before adolescence, there is a time period known as preadolescence, which is a stage of human development. It usually comes to an end at the onset of puberty, but it can also be seen as a culmination at the beginning of the early years. For example, the majority of definitions of the word refer to it as being between the ages of 10 and 13. Preadolescence comes with its own set of difficulties and concerns [3]. Pre-pubesence and adolescence are distinct stages of development. Pre-pubescents are defined as those between the ages of 10 and 13 who have not yet developed secondary sexual features, whilst preadolescents are defined as those between the ages of 13 and 18. Preadolescence can also be defined as the period between the ages of 9 and 14. The commencement of pubescence or the beginning of the young stage marks the transition of a kid into a pre-adult. The adolescent stage is also considered as the culmination of immaturity. Pre-adolescent puberty may begin in the pre-adolescent years in certain individuals (especially females) [2]. Since the 1950s, studies show, every age group has seen the onset of puberty one year earlier. People aged 12 and under are

referred to as tweens or pre-adolescents, despite the term "pre-adolescent" being used in the field of psychology. For the most part, the word is reserved for individuals who are about to become 12 years old, specifically those who are now in grade 6.

Children's lives are intertwined with the influences of both their immediate family and formal educational institutions like school. The family unit plays a crucial role in a child's first five years of life as the primary mingling specialist [31]. A youngster's readiness for school, acting naturally assured and intrigued; the ability to pause, to gather one's bearings, and coexistence with other children are all examples of middle childhood depictions that are distinct [4]. People in their pre-adolescent years have a different perspective on the world than children. Common among precocious adolescents is an outlook on life that is less serious and more dream-like [1]. Thoughts and actions of preadolescents are more refined, mature, and rational. In this stage of development, which is considered the most rational, the child is a much less passionate individual. Over time, they'll have earned a reputation as methodical [6]. Young people who want to make a difference in the world

and are persistent enough to see the results of their efforts are more likely than their younger peers to be preoccupied with the here and now and less likely to be concerned about the future than their counterparts. It's possible to set more attainable goals in this area. Young people in the middle of their lives are more likely to be concerned about kidnappings and attacks than they are about their own stories, cartoons, or fantasies [30].

Prepubescent may have a different perspective on human behavior than adults. Self-actualization and a deeper sense of personal independence may also begin to develop at this point. If the middle child shows more helpfulness, a new perspective on ethical quality may emerge [29]. Around this time, many pre-adolescents start questioning their parents and their surroundings, and developing feelings that are distinct from their childhood views on themes like legislation, religion, sexuality, and the reproductive system. As middle-aged children take on more responsibility in the family, they may also face greater responsibilities, such as caring for their younger siblings and cousins [5]. According to Fenwick & Smith, Preadolescents' unique behaviors and the factors that influence them were the focus of this investigation. The physical, social, academic, emotional, interpersonal, and personal elements of pre-adolescence have been researched. Preadolescents' conduct is heavily influenced by their relationships with their parents, siblings, cousins, friends, and teachers, among other people [7].

II. PURPOSE OF THE STUDY

Recent studies have shown that pre-adolescent children's behavior is more violent or anti-social than that of teenagers or adults. The school, the family, the community, and even among peers are all places where this type of behavior has been observed. There has been an increase in aggression and other mental health issues among pre-adolescents in recent years. According to the Times of India, parents who cannot afford the school's tuition are forcing their children as young as 12 to commit suicide [8]. Adolescent drug use and abusive conduct are on the rise.

On top of all the bad press these kids have been getting, it seems like they're under a lot of pressure to perform well in every field, especially when it comes to academics [10]. The eating habits of today's children have shifted as well; fast food, junk food, and spicy cuisine are among the favorites of today's youngsters. In the minds of these young people, the hotels and restaurants they've seen on television and in movies have come to represent their ideal lives. Friends have priority over family and parents since they have the time and attention they need. On social media, they prefer to communicate with strangers rather

than family members. As a result, individuals get worried, agitated, and frustrated as a result of virtual isolation. This is evident in their actions. In 2015 [9]. These changes in pre-adolescence are being studied in depth by researchers. Scientists think these findings will help society better regulate pre-adolescent behavior, as well as the elements that influence both their prosaically and antisocial behavior.

III. LITERATURE REVIEW

Researchers investigated 232 youngsters aged 9 to 12 from an ethnically diverse population sample Martin, Kim, Bruce, and Fisher. According to research, a child's externalizing behavior might be predicted by a lack of regular discipline and inadequate quality monitoring. These kids had poor parental monitoring but not inconsistent discipline. In addition, they found that parental monitoring had an indirect impact on children's externalizing behaviors via their diurnal cortisol rhythms. Cortisol, a hormone produced by the hypothalamus, pituitary, and adrenal axis, plays a vital part in the development of externalizing behaviors in school students.

Pre-adolescent children's perfectionism has been studied by Fair-weather-Schmidt and Wade who conducted a pilot research to evaluate a school-based intervention programme aimed at diminishing this trait. Furthermore, significant interactions between group and time were shown to favour the intervention group for hyperactivity and emotional disorders in the study results [27].

A study by Saritha on pre-adolescent students' moral judgement. Analysis of pre-adolescent kids' moral judgement and academic achievement were the study's primary goals. [32]. According to the findings, preadolescent pupils had an average ability to exercise moral judgement. A moderate but significant association between moral judgement and pre-adolescent adolescents' academic progress was found in a study of moral judgement abilities [28].

Preadolescents' self-concept was examined by Anjana in her research on the psychosocial aspects of that notion [11]. 185 students in grades 5, 6, and 7 were recruited at random from a population of 9-13-year-olds. Anxiety was found to be linked to a person's self-perception and adjustment. The ego-ideal disparity has been linked to adjustment. Difference Between the groups with high and low self-esteem, there was a noticeable difference in parental attitudes. Self-concept and personality were found to be affected by age, social status, and saxophone preference. The study found that the pre-self-concept adolescent's is influenced by psychosocial influences.

Children aged 9 and 11 years old were studied by researchers Opondo, Redshaw, Savage-McGlynn, and Quigley to determine the impact of fathers' early involvement in child rearing on behavioural outcomes from a social development perspective [12]. According to the findings, male involvement in a child's early development is linked to better behavioural results because of the psychological and emotional aspects of that involvement, specifically how new fathers see themselves as parents and adjust to that position. There is a strong correlation between mothers' unfavourable comments about their appearance and diet and their daughters' body image issues and eating patterns, according to Handford, Rapee [13]. Those taking part were girls between the ages of 8 and 12, together with their mothers. Mothers who criticised their children's appearances and diets had a negative effect on their

children's self-esteem and body satisfaction as well as on their eating habits, according to this study. Disordered eating prevention programmes may benefit from these findings, which imply that more attention should be made on preventing mothers from imitating harmful behaviours [33].

IV. METHODOLOGY

Study Design

Individual and environmental influences on emotional and behavioral disorders in early adolescence were assessed using a multilevel model analysis in this descriptive study (Figure 1)

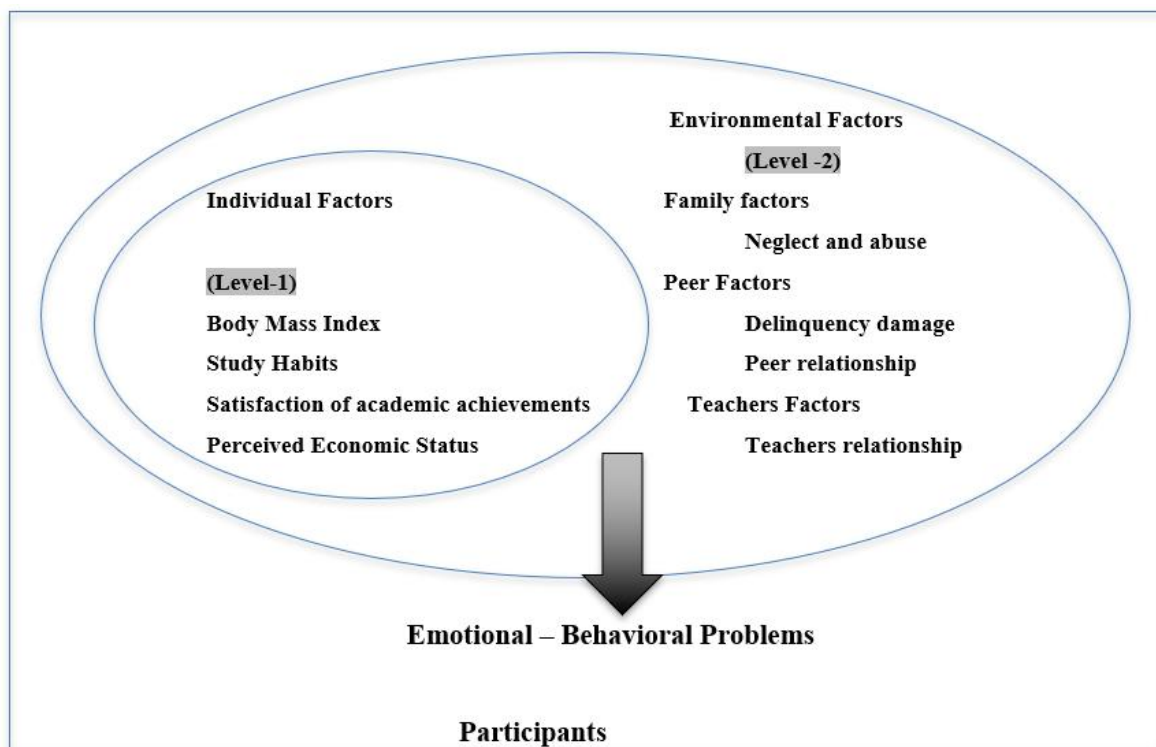


Fig.1 depicts the study's design model.

The study recruited 977 participants from eight middle schools in a suburban area of the northwest United States." Most participants came from middle-class families, despite the lack of data on household income. A preliminary test was given to students in the fourth grade (mean age: 9 years, 2 months). There was a follow-up exam in sixth grade (mean age: 12 years, 11 months). Men made up a whopping 60.79% of the participants. Seventy-eight percent of the participants came from two-parent households, followed by thirteen percent from single-parent households, thirteen percent from shared custody situations, and two percent from other situations. [13] To account for gender variations

in childrens' behavioral issues, the individuals were separated into male and female groups.

Measures

1) Emotional - Behavioral Problems

There were 4 factors on which the survey was conducted in 2014 by NSCH. They were aggression, somatic symptoms, depression and social withdrawal. A four point Likert Scale was used which included six questions on aggression, eight questions on somatic symptoms, and ten questions on despair . Score of 29-116 showed more serious emotional problems in childrens'. The

reading of Cronbach's α in this experiment resulted in .82, .85, .89, .90 for aggression, somatic symptoms, social withdrawal and depression respectively.

2) Individual Level Factors

- Obesity: BMI (Body Mass Index: kg/m^2) was used to determine level of obesity. It was calculated from their actual weight and height as per recent survey by CDC's 2007 American National Growth Charts.
 1. Overweight: $85 \text{ percentile} \leq \text{BMI} < 95 \text{ percentile}$
 2. Underweight: $\text{BMI} < 5 \text{ percentile}$
- Study habits: An overall study habits score was created by combining the subordinate elements of learning achievement value and mastery goal orientation.. A total of nine items were included in the study habits questionnaire, including seven items about the value of learning and two about mastery goal orientation which included whether they enjoy learning difficult skills to get knowledge. Reading was taken from Likert Scale which showed 1 point for strong agreement and 4 point for strong disagreement. Overall score was between 8 and 36 points. The value of Cronach's α changed from .88 to .78 and .89 to .67 during the study and before the study for learning achievement value and mastery goal orientation respectively.
- Satisfaction for academic achievement : A 4-point Likert Scale was used from grading which showed higher score for lower academic achievement satisfaction
- Economic status: We used a single item on a three-point scale to gauge people's perceived financial well-being. Scores that are higher reflect (i.e 3 points) a poorer level of economic well-being.

3) Environmental Level Factors

- Neglect - abuse: The values of neglect abuse were added together for totals. The researchers used 8 different factors out of which four factors each for neglect and abuse. Score ranged from 8 to 32 .The value of Cronach's α changed from .87 to .73 and .89 to .84 during the study and before the study for neglect and abuse respectively. Higher points indicated higher neglect and maltreatment.
- Delinquency victimization: As a result, values were determined by adding together student reports of delinquency victimization. An individual's

vulnerability to delinquency has been assessed by rating them on a scale of 0 to 1 on seven different factors such as recent severe taunting, bullying or ostracizing, physical or verbal assault, threats, extortion, or rape or sexual harassment.

- Peer relation: One of the readings was about peer relationships. A Likert Scale was used with scores from 4 to 20. Higher scores showed weak interaction between students. Cronbach's α changed from .80 to .78 before the study and after the study.
- Teacher-student relationship: A 4-point Likert scale was used to gauge the quality of the teacher-student relationship, including "My teacher is kind to me." Cronach's α decreased from .88 at the time of the study's creation to .84 in this study, which indicates that there is less rapport between the instructor and student.

Statistical Analysis

Using SPSS 23.0, we discovered statistical significance with a p-value of little under .05. Descriptive statistics and frequency analysis were used to determine individual and environmental factors. ANOVA and independent t-tests have been used to analyze emotional-behavioral disorders. The SPSS Hierarchical Linear Model (HLM) was used to analyze multilevel models comprising individual and environmental components. The intraclass correlation coefficient (ICC) was calculated using individual and environmental level factor variances (Level 1 σ^2) (Level 2 σ^2). The Null model was employed for sequential analysis in this study. At Level 2, the ICC formula was: $\text{Level 2 } \sigma^2 / (\text{Level 1 } \sigma^2 + \text{Level 2 } \sigma^2)$.

V. RESULTS

1) Characteristics of Individual Level Factors of the Subjects

79% of normal-weight pupils were male, whereas 9% were overweight, and 7% were obese. 85.5 % of female students were normal weight, 8.0 % overweight and 2.9 % obese. Male students who smoked made up 6.9% of the population. For male students, 12.1% were "very satisfied" or "very dissatisfied," vs 7.8% for female students. According to the Pew Research Center, 37.1% of male students and 29.8% of female students believe they are wealthy, while 6.7% believe they are poor (Table 1).

Table:1 Characteristics of Individual Level Factors

Characteristics	Categories	Boy (n=1021)n%	Girl (n=936)n%
Body weight	Underweight	30(3.9)	24(3.6)
	Normal weight	810(79.0)	800(85.5)
	Overweight	100(9.8)	75(8.6)
	Obesity	74(7.3)	26(2.9)
Study Habits	High	246(24.0)	268(28.4)
	Middle- high	291(28.3)	298(31.6)
	Middle- low	206(20.1)	176(18.7)
	Low	285(27.6)	201(21.2)
Satisfaction of academic achievements	Very good	125(12.1)	74(7.3)
	Good	445(43.5)	40(45.1)
	Bad	382(37.1)	300(40.9)
	Very bad	76(7.4)	77(8.1)
Perceived Economic status	Rich	381(37.0)	282(29.8)
	Moderate	584(56.6)	601(63.5)
	Poor	66(6.4)	63(6.7)

2) Characteristics of Environmental Level Factors of the Subjects

A male student's average score was 17.65±0.90 (skewness -.19, kurtosis 0.36). Victimization by peers was 0.07±0.36 (skewness=.12, kurtosis=.85). In terms of skewness and kurtosis, the peer connection averages 10.29±1.93 points. It scored 10.26±3.12 points on the teacher-factor scale (skewness=.28, kurtosis=.09). In the home variables, neglect-abuse averaged 17.69±0.90

points among female students (skewness=-0.22, kurtosis=0.41). Victimization by peers averaged 0.06±0.32 points (skewness.57, kurtosis.92). The average peer relation score was 10.61±1.66 (skewness=-.01; kurtosis=1.68). Teachers and students give teachers an average of 10.46±3.05 points (skewness=.25 kurtosis=.24). All variables had a normal distribution with kurtosis and skewness < 3. (Table 2)

Table :2 Characteristics of Environmental Level Factors

Variables	Boy			Girl		
	Min	Max	M± SD	Min	Max	M+SD
Family Factors • Neglect and abuse	13.60	18.74	16.65±0.90	13.60	18.74	16.69±0.90
Peer Factors • Delinquency damage	0.00	3.00	0.07±0.36	0.00	3.00	0.06±0.32
• Peer relationship	4.00	16.00	09.29±1.93	4.00	19.00	10.61±1.56
Teachers Factors • Teacher relationship	4.00	19.00	09.26±3.12	4.00	18.00	09.46±3.05

3) Characteristics of Emotional-Behavioral Problems of the Subjects

Male students scored 89.17±6.46 for emotional-behavioral disorders, 17.61±3.34 for aggression, and 22.65±4.50 for somatization symptoms. Skewness was found to be .05, .14, and .11. Female students had a

mean of 32.96 points. Among female students, emotional and behavioral issues received 89.01±6.06 (skewness=.00, kurtosis=.21), aggression 17.79±3.35 (skewness=.15, kurtosis=-.31) and somatization symptoms 23.46±4.76 (skewness=.00). The kurtosis was below 3 and the skewness of dependent and subordinate variables were all below 1. (Table 3)

Table: 3 Characteristics of Environmental – Behavioral Problems

Variables	Boy			Girl		
	Min	Max	M± SD	Min	Max	M±SD
Emotional Behavioral Problems	65.00	112	88.17±6.46	65.60	112.00	88.01±6.06
Aggression	11.00	29.00	16.61±3.34	11.00	30.00	16.79±3.35
Body Symptoms	15.00	36.00	21.65±4.50	15.00	36.00	22.46±4.76
Social Withdrawal	11.00	24.00	14.93±3.74	9.00	23.00	17.25±3.53
Depression	12.00	42.00	31.96±5.48	10.00	40.00	32.50±5.90

4) Emotional-Behavioral Disorders vary depending on the individual and the environment in which they occur.

The emotional-behavioral issue scores of male students with normal weight (74.27) and obese (75.99) were statistically different (p=.024). Students with the best study habits scored 72.87 points for emotional-behavioral issues, followed by students in the upper medium level (74.48), lower middle level (75.19), and lowest level (75.51). Emotional and behavioral issues among students are statistically linked to poor study habits. "Very content" students scored 74.03 percent, while "Very unhappy" students scored 76.18%. The less academic achievement fulfillment, the more emotional and behavioral issues. (p=.021) Study habits were connected with reduced levels of emotional-behavioral issues (p.001). The wealthy scored 73.60, the moderately wealthy 74.51, and the impoverished 75.08, suggesting that the lower the perceived economic position, the higher the level of emotional problems. Behavioral issues (p=.015) (Table 4).

VI. DISCUSSION

This study's purpose was to discover the origins of pre-adolescent emotional and behavioral issues. Multilevel model analysis portrayed individual and environmental components hierarchically. Men's EBDs are influenced by their study habits, BMI, and school grades. The academic habits and socioeconomic condition of female students affected their emotional-behavioral issues. Male and female

kids had various emotional and behavioral concerns. As a result, dealing with emotional and behavioral disorders requires distinct approaches for boys and girls. The elements that contribute to gender-specific emotional-behavioral disorders must be examined [14]. Examining the multilevel model shows the importance of Model 2's individual level components [26]. Obesity was connected with an increase in emotional-behavioral issues in males, but not in women [16]. Across the globe, adolescent obesity rates are roughly comparable for boys and girls, but for women it is half as high, indicating the persistent gender disparity in obesity rates. Obesity and emotional-behavioral difficulties may be missed in childhood dieters. Rather than a direct correlation, self-perception and self-esteem operate as mediators between obesity and EBD. Several research, both worldwide and locally, have established a link between subjective body image and emotional-behavioral disorders [15].

Male students who are self-conscious about their bodies are more likely than female pupils to consider suicide. Both univariate and multivariate analyses revealed that drinking affects female students' emotional and behavioral issues. A recent study found that female college students drank more when angry or unhappy. A study of 5th and 6th grade American pupils found a relationship between alcoholism and violence. Because the problems investigated here include aggression, somatization, social disengagement, and unhappiness, a larger study is required to determine which qualities are linked to alcoholism. In both univariate and multilayer models, male and female

students had similar study habits. Middle school pupils with better study habits and more emotional and behavioral issues performed better academically and were happier [17].

In middle school, children's study habits improved due to their parents' greater compassion, attentiveness, and clarity. School motivation directly affects self-esteem and academic success. Socioeconomic status appears to affect women's emotional and behavioral disorders more than men's. Students from lower-income households and those living in substandard housing exhibited higher levels of emotional issues than students from higher-income families and those living in better housing. A Scottish study of 9-12-year-olds found that youngsters from wealthy families performed better academically [19]. Somatization symptoms are more common in people with high subjective economic status, and they have a higher impact on sub-factors of emotional and behavioral issues [18]. Due to somatization symptoms do not apply to all emotional-behavioral issues, more research is required. Numerous research have examined how the environment affects early adolescent mental and behavioral health. An in-class experiment demonstrated that social support from parents, instructors, and peers influenced second-year middle school students' behavior [20].

A study of middle school kids found that parents, teachers, and classmates can influence their children's behavior directly or indirectly. Conflict between parents and their proximity also has a huge impact on children's emotional and behavioral issues. To address young boys' and girls' emotional-behavioral issues, this multilevel model's results revealed the importance of teacher-student relationships [24]. When ambient level determinants were considered, female students' level-2 variation was substantially higher than male students'. Due to disparities in the teacher-student relationship, female students may have more emotional-behavioral issues than male students [21]. Male students' emotional-behavioral issues are projected to be more internal than external. A prior study found that teachers' social support contributed to depression in preadolescents, which matched the findings of this study [25]. Early childhood educators are vital in avoiding and treating emotional and behavioral issues in preschoolers. Teachers can help pre-adolescent females with depression. A Norwegian longitudinal study of pre-adolescents indicated that women who received greater support from their professors were more likely to be depressed [22]. This study also found that gender makes a difference in the impact of social support on emotional-behavioral disorders. First, this study didn't consider a wide range of environmental variables. Because school infrastructure was

not included in environmental level components, schools cannot provide EBD treatment.

The cross-sectional methodology of this study, which used data from the National Children and Youth Survey, made it impossible to ascertain the order in which dependent variables and influencing factors interacted. More study is needed, including latitudinal and multilevel model evaluations [23]. Statistical significance and explanatory power in ambient level components were shown to be linked with emotional-behavioral problems.

VII. CONCLUSION

In early adolescence, peer acceptance or rejection may predict pre-adol Connection between these two components some models (such social status) may overlook at-risk youth, especially controversial ones. Families shield disturbed youth. Even if they had troubled friends, most kids profited from academic accomplishment. Dangerous peer dynamics appear to affect both girls and boys.

The 5th National Children-Youth Panel Survey was used to assess pre-adolescent emotional and behavioral issues. Aspects of the individual and of the environment (2014, grade 4-6 students in middle school). Examining habits and alcohol consumption influenced male students' moods. They influenced female pupils too. Contrary to popular belief, teacher-student interactions affect both male and female students. Emotional behavioral disorders demand a gender-specific approach to treatment. Female students, in particular, desire a casual learning environment.

A single-level model has limits, thus we employed a multilayer model. A new classroom management strategy based on this study's findings. More research is needed before developing specialized programmes to address emotional behavioral disorders. Examine whether friends' experiences predict later adolescent problem behaviors.

Peer referrals can help identify at-risk middle school students. Youth should be paired with successful adults to avoid future behavioral issues. This has to be looked into. Learn more about how others' experiences affect ours. Studying parent-child relations helps improve teen counseling.

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