

Antisocial Behavior and Suicidal Ideation in University Students: Unpacking the Moderating Role of Parenting Styles

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ABSTRACT

The research aims to measure the relationship between antisocial behavior and suicidal ideation among university students; the moderating role of perceived parenting styles (permissive, authoritative and authoritarian). The total sample comprised of 313 adults whom were enlisted by use of multistage random sampling from three big cities (Faisalabad, Lahore & Bahawalpur) of Punjab, Pakistan. Three questionnaires were employed; Antisocial Behavior Questionnaire, Parental Authority Questionnaire, and Suicidal Ideation Attributes Scale. Cross-sectional research design was used in this research. The collected quantitative data were analyzed through SPSS (23.0). The results of bivariate correlation analysis found significant positive correlation between antisocial behavior and suicidal ideation among adults. Further, permissive and authoritarian parenting styles were positively associated with antisocial behavior and suicidal ideation. Whereas, authoritative parenting style was negatively correlated with antisocial behavior and suicidal ideation among adults. Further, the moderation analysis checked through the guidelines of Baron and Kenny (1986). The results of hierarchical regression analysis found parenting styles were significantly moderate the relationship between antisocial behavior and suicidal ideation among adults. The limitations and future avenues were also deliberated.

Keywords: Antisocial Behavior, Suicidal Ideation, Parenting Styles, Adults

INTRODUCTION

Suicide is a leading cause of death among emerging adults in the United States. In 2017, more than 6,200 young individuals died by suicide, making it the second-leading cause of death for those aged 15 to 24, surpassed only by car accidents (Lindquist et al., 2023). Globally, the age-standardized suicide rate is 2.3 times higher in men than in women. This gender ratio is slightly higher in high-income countries (2.9) compared to middle-income (2.6) and low-income (1.8) countries (World Health Organization, 2021). In Spain, suicide was the leading cause of external death in 2020, surpassing accidents, falls, assaults, and homicides, with a total of 3,941 deaths (2,930 men and 1,011 women)—a 7.4% increase from 2019 (Fonseca-Pedrero et al., 2022). The Southeast Asia region has the highest suicide rates among World Health Organization (WHO) regions, with a rate of 13.4 per 100,000 (World Health Organization, 2019). Approximately 39% of all suicides in low- and middle-income countries occur in Southeast Asia (Ahmed et al., 2017). These alarming statistics underscore the urgent need for interventions at various levels to reduce suicide rates. Addressing this issue has been included as part of the United Nations' 2030 Agenda (2015). Suicidal ideation encompasses both suicide attempts and completed suicides. It is defined as the initial thought of threatening or taking one's own life, which may ultimately lead to such actions (Beskow, 1987). Despite this, limited research and theoretical frameworks exist to fully understand this issue, partly due to the efforts of mental health professionals and families to intervene and prevent suicidal acts. Nonetheless, ongoing research focuses on prevention and

intervention strategies for suicidal behavior and attempts (Soole et al., 2015). Additionally, past studies have identified a relationship between antisocial behavior and suicidal ideation (Douglas et al., 2008).

Antisocial behavior refers to actions that violate social norms and values, infringing on the rights of others (Burt, 2012). It encompasses both overt and covert forms of antisocial behavior (Loeber et al., 2009), which can lead to significant challenges in adulthood. Overt antisocial behavior, also known as aggressive antisocial behavior, includes acts of physical rage or anger, violence, defiance, or fighting. In contrast, covert antisocial behavior, also referred to as non-aggressive antisocial behavior (McEachern & Snyder, 2012), involves rule-breaking activities such as property-related offenses like vandalism or theft, and status-related offenses such as drug use or running away from home. These behaviors vary in severity, are moderately interrelated, and tend to persist across developmental stages.

In 2015, a study by Barzilay et al. examined school samples and found that adolescents with low levels of parental closeness and belonging, coupled with a higher sense of burden, were at significantly increased risk of suicidal ideation and suicide attempts. It was suggested that the interpersonal theory of suicide might be applicable to young adults; however, this theory has not been extensively explored in children. Notably, antisocial behavior is particularly associated with suicidal behavior in young males (Holden, 1986). Among college students, antisocial behavior has been reported to correlate with suicidal ideation (Myers et al., 1991), suicide attempts (Apter et al., 1988), and completed suicides (Russell, 1985). Conversely, individuals exhibiting antisocial behavior often show depressive symptoms (McManus et al., 1984), which may accompany suicidal thoughts and attempts (Chowanec et al., 1991).

Out of the four parenting styles proposed by Baumrind (1991), this study focuses on three: authoritarian, permissive, and authoritative. The fourth style, rejecting-neglecting, is excluded as it lacks parental involvement. Authoritarian parents are highly rigid, strict, and demanding. They set firm rules, enforce strict guidelines, and closely monitor their children's activities, decisions, and choices, leaving little room for autonomy. In contrast, permissive parents are the opposite. They are minimally demanding, offering unconditional approval and praise regardless of their children's actions or decisions. They are highly flexible and avoid conflicts whenever possible. Authoritative parents strike a balance between the two extremes. While they set clear expectations and demand accountability from their children, they also provide support, encourage autonomy, and involve their children in decision-making processes (Holt et al., 2009).

Research has shown that children raised in an authoritative parenting style are better equipped to cope with negative emotions and experiences. In contrast, children of authoritarian or permissive parents are more prone to developing clinical conditions like depression, which are often linked to self-destructive behaviors (Morris et al., 2007; Silva et al., 2012). However, this vulnerability is not straightforward, as it becomes more prevalent in the absence of affection and the presence of insecure attachment with significant figures (Simoës, 2011).

Empirical evidence also suggests that younger adolescents and females tend to have more secure relationships with their parents and perceive their parenting styles as democratic (Meeus et al., 2005). Other studies highlight that the quality of emotional bonds and parenting styles established during childhood and adolescence are critical protective factors for healthy development and psycho-emotional adjustment (Cruz et al., 2014). Authoritative parenting behaviors, in particular, positively contribute to fostering secure bonds with parental figures (Rhee et al., 2006). Additionally, the quality of attachment to parents is associated with adolescents' psychological

well-being and emotional regulation, promoting feelings of protection, support, and security (Scott et al., 2011).

Parental styles are often considered predictors of suicidal behavior in children, though the evidence remains inconclusive. A study conducted in Australia involving 681 students found that children exposed to authoritarian parenting, characterized by low warmth and high control, faced double the risk of suicidal thoughts (Martin & Waite, 1994). Similarly, a study in Germany examined 44,610 students and revealed that authoritative parenting—marked by high warmth and low control—reduced the risk of suicide by 21%. In contrast, neglectful or rejecting parenting increased the risk of suicide by 1.63 times (Donath et al., 2014). The literature also highlights a significant link between early parental care and the development of antisocial behavior in young adults. Strong evidence suggests a positive association between antisocial behavior and both authoritarian and permissive parenting styles (Narusyte et al., 2007; Roche et al., 2007; Smith & Farrington, 2004).

Numerous studies have consistently highlighted a significant link between antisocial behavior and parenting styles in young adults. Parental practices characterized by support, communication, affection, and responsiveness are negatively associated with antisocial behavior. These practices are also linked to reduced risks of substance use and abuse (Calafat et al., 2014), criminal activities (Hoeve et al., 2011), school-related interpersonal difficulties (García & Gracia, 2009), and incidents of bullying and harassment (Gómez-Ortiz et al., 2015). Conversely, neglectful parenting styles—marked by low responsiveness and minimal demands—are most strongly correlated with higher levels of antisocial behavior in young adults.

Based on the discussed literature, it can be concluded that antisocial behavior in adults increases the risk of suicidal ideation and is positively associated with it. In this context, adults who perceive permissive or authoritarian parenting styles are at an elevated risk of suicidal ideation. In contrast, authoritative parenting is inversely associated with both antisocial behavior and suicidal ideation. The aim of this research is to examine the impact of antisocial behavior on suicidal ideation among adults, with a focus on the moderating role of parenting styles. Based on these objectives, this research hypothesizes:

- H₁: There would be a positive correlation between antisocial behavior and suicidal ideation among adults.
- H₂: Permissive parenting style would positive moderate between antisocial behavior and suicidal ideation among adults.
- H₃: Authoritarian parenting style would positive moderate between antisocial behavior and suicidal ideation among adults.
- H₄: Authoritative parenting style would negative moderate between antisocial behavior and suicidal ideation among adults.

METHODS

Research design

The present research was quantitative and cross-sectional research design was applied in it.

Participants

A total of 313 adults were enlisted using multistage random sampling from three cities in Punjab, Pakistan (Faisalabad, Lahore, and Bahawalpur). The sample size was determined using online A-priori statistical multiple regression analysis (Soper, 2024), with a power of 0.9% and a 95% confidence interval, accounting for a 20% attrition rate. Data were collected from adults, and participants showing psychological or medical symptoms were excluded from the study. Multistage sampling was employed in this research, involving several stages of random selection.

In the first stage, one province (Punjab) of Pakistan was randomly chosen using the hat method. In the second stage, three cities (Lahore, Faisalabad, and Bahawalpur) from the Punjab province were randomly selected. In the third stage, one public-sector university was randomly chosen from each city. Finally, data were collected from three universities (Punjab University, Govt. College University Faisalabad, and Islamia University Bahawalpur) across these cities. Table 1 presents the frequency distribution of demographic variables.

Table 1 Frequency Distribution of Total Sample (N=313)

Respondent's Characteristics		f (%)
University	Govt College University Faisalabad	104 (33.2)
	University of Punjab Lahore	104 (33.2)
	The Islamia University of Bahawalpur	105 (33.6)
Gender	Male	164 (52.4)
	Female	149 (47.6)
Socioeconomic Status	Lower Class	37 (11.8)
	Middle Class	214 (68.4)
	Upper Class	62 (19.8)
Residence	Rural	155 (49.5)
	Urban	158 (50.5)
Family System	Nuclear	167 (53.4)
	Joint	146 (46.6)

Instruments

Demographic Sheet. Demographic sheet obtained from participant which included age, gender, education, socioeconomic status, home residence and family system of participant.

Antisocial Behavior Questionnaire. This scale is developed by Burt and Donnellan (2009), includes 32-items with 5-point Likert response 1 for never and 5 for almost every time. This scale is highly reliable and have good psychometric properties.

Parental Authority Questionnaire (PAQ). Parental Authority Questionnaire developed by Buri (1991). This questionnaire is comprising on total 30 items having three subscales Permissive Parenting Style (10 items), Authoritarian Parenting Style (10 items) and Authoritative parenting Style (10 items). In this research Parental Authority Questionnaire for father was used for data collection because in Pakistani culture father is dominant in family. PAQ is 5 Likert response questionnaire having with 1 for strongly disagree and 5 for strongly agree.

Suicidal Ideation Attributes Scale. Consist of 5 items measure on 11 Likert response (0 for never and 10 for always) developed by Spijker (2014). This scale is planned to screen persons in the public for occurrence of suicidal thoughts and assess the severity of these thoughts. Each item targeting a characteristic of suicidal thoughts: controllability, frequency, closeness to attempt, level of distress associated with the thoughts and impact on daily functioning. This scale had high internal consistency (Cronbach alpha = 0.91).

Procedure

The total sample were comprised of (N=313) respondents that were collected multiple random sampling technique. In first stage, one province (Punjab) of Pakistan was randomly selected, then in second stage three divisions (Faisalabad, Lahore & Bahawalpur) of Punjab were also randomly selected, further in stage three, one university form each division also randomly selected and final stage sample were also randomly selected from three selected universities (Govt College University Faisalabad, University of Punjab Lahore & The Islamia University of Bahawalpur) than

a written informed consent was obtained from respondents. Considering the quantitative current research design, the mandatory ethical considerations were addressed (such as, prior permission from the actual author to use the questionnaire, informed consent, confidentiality, and anonymity). Further, formal permission was taken from ethical review committee.

Analysis Plan

The collected data will be analyzed through SPSS (23.0). To check the relationship among all variables bivariate correlation analysis was used because correlation coefficient, While, for moderation, hierarchical regression analysis was used following Baron and Kenny (1986) guidelines.

RESULTS

The table 2 shows that antisocial behaviour was significantly and positively associated with perceived permissive parenting style, perceived authoritarian parenting style and suicidal ideation. While antisocial behaviour was significantly and negatively correlated with perceived authoritative parenting style. While, perceived permissive parenting style and perceived authoritarian parenting style were significantly positively correlated with suicidal ideation and negatively significant correlated with perceived authoritative parenting style. Moreover, perceived authoritative parenting style was significantly negatively related with suicidal ideation.

Table 2 Bivariate Correlation among all variables (N=313)

	1	2	3	4	5
Antisocial Behavior	-	.22**	.31**	-.50**	.27**
Perceived Permissive Parenting		-	.53**	-.25**	.19**
Perceived Authoritarian Parenting			-	-.35**	.50**
Perceived Authoritative Parenting				-	-.33**
Suicidal Ideation					-
Mean	79.22	28.70	34.68	34.35	20.01
Std. Deviation	23.90	7.60	6.58	7.83	15.10
Cronbach's alpha	0.890	0.760	0.790	0.78	0.93

**p < .01

The results in Table 3 show that after controlling demographic variables (i.e., gender socioeconomic status and residence) in step 1. Permissive, authoritarian and authoritative parenting styles were in in step 2, antisocial behavior in step 3, and interaction terms in step 4 were entered, the overall model explained the 34.0% of variance with F (10, 302) 15.54, p < .001 for suicidal ideation, where in step 2, permissive, authoritarian and authoritative parenting styles were found to be a significant moderator and predictor of suicidal ideation. From step 3, antisocial behavior was found to be significant positive predictor of suicidal ideation. Furthermore, from step 4 only the interaction of antisocial behavior and Permissive, authoritarian and authoritative parenting styles were found significant.

Table 3 Hierarchical Regression Analysis for Moderating Role of Perceived Parenting Styles between Antisocial Behavior and Suicidal Ideation

Variables	Suicidal Ideation		
	R ²	B	95% CI
Step 1	.02		
Control Variables*			

Step 2	.29		
Permissive Parenting Style		.23*	(.17, .28)
Authoritarian Parenting Style		1.13***	(1.05, 1.21)
Authoritative Parenting Style		-.35***	(-.41, -.29)
Step 3	.30		
Antisocial Behavior		.26*	(.19, .33)
Step 4	.34		
Antisocial Behavior _X_ Permissive Parenting Style		2.70***	(2.58, 2.83)
Antisocial Behavior _X_ Authoritarian Parenting Style		2.66***	(2.52, 2.80)
Antisocial Behavior _X_ Authoritative Parenting Style		1.42***	(1.29, 1.55)
Total R2	.34		

Note: Control Variables = gender, socioeconomic status and residence, * $p < .05$; *** $p < .001$

The plot 1 showed that the nature of the relationship between antisocial behavior with suicidal ideation become positive for both (low and high) permissive parenting style.

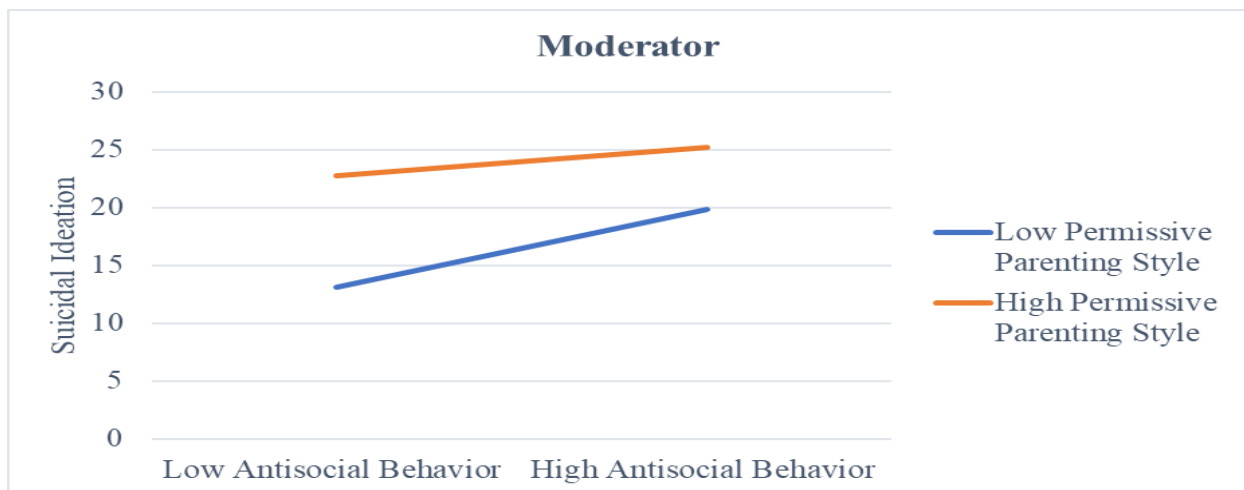


Figure 1: Interaction plot of Antisocial Behaviour and Permissive Parenting Style with Suicidal Ideation

The plot 2 showed that the nature of the relationship between antisocial behavior with suicidal ideation become positive for both (low and high) authoritarian parenting style.

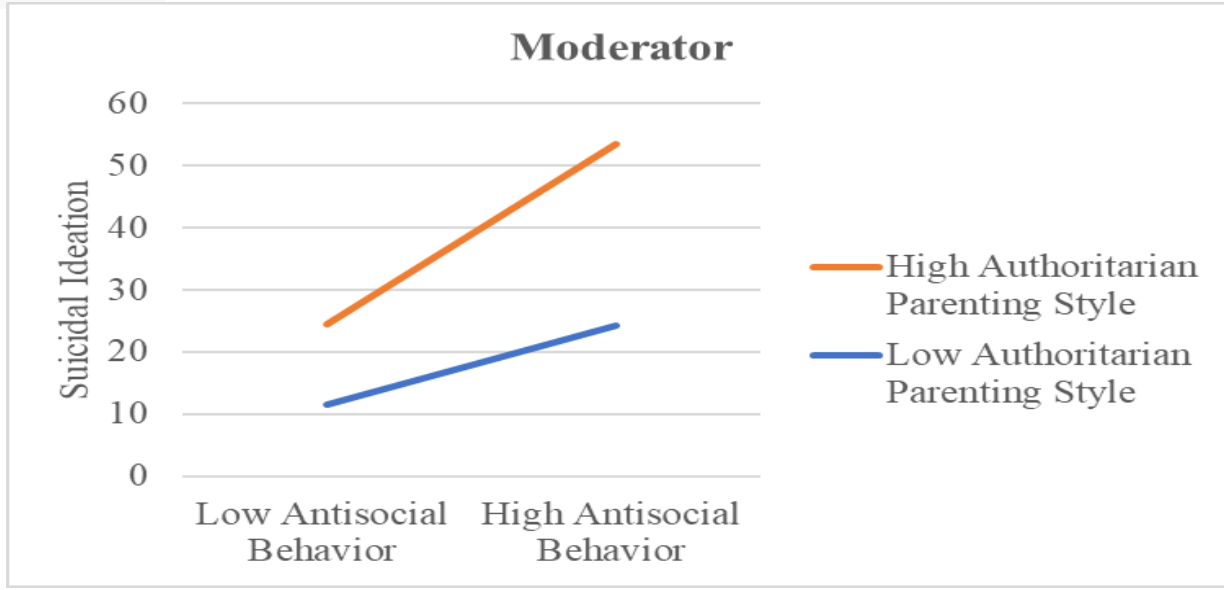


Figure 2: Interaction plot of Antisocial Behaviour and Authoritarian Parenting Style with Suicidal Ideation

The plot 3 showed that the nature of the relationship between antisocial behavior with suicidal ideation become negative for both (low and high) authoritative parenting style.

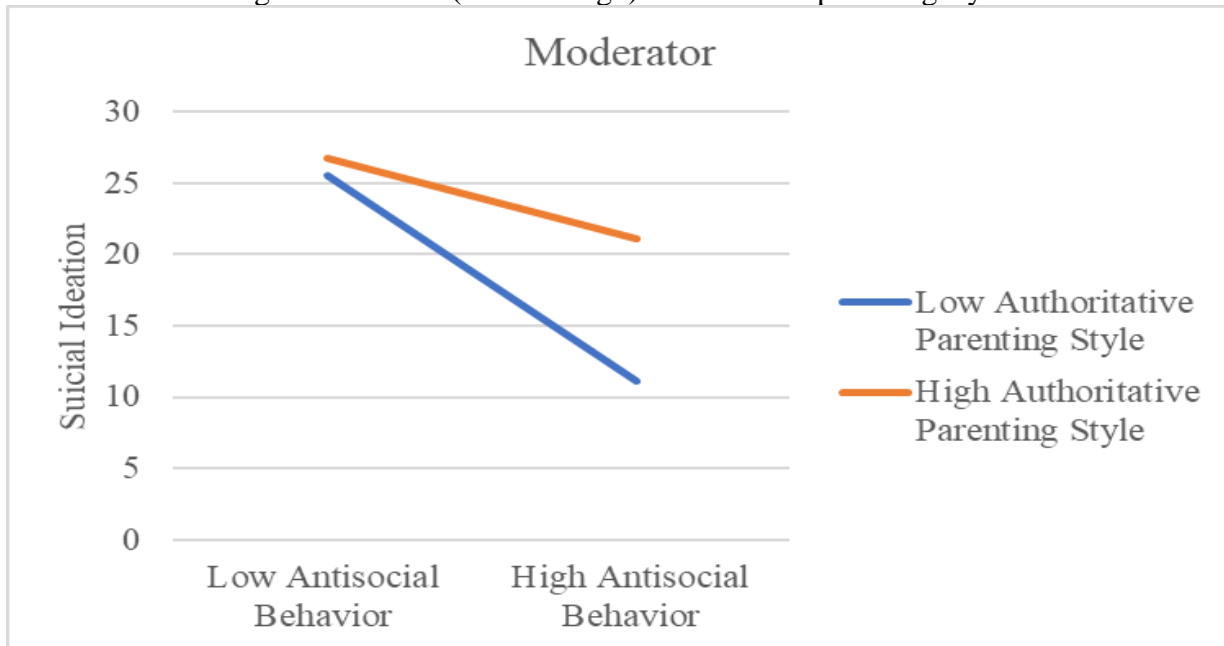


Figure 3: Interaction plot of Antisocial Behaviour and Authoritative Parenting Style with Suicidal Ideation

DISCUSSION

The aim of this research was to measure the impact of antisocial behavior on suicidal ideation among adults; moderating role of parenting style. In past two decades, a trend of suicidal rates among adults has been observed across several countries (Goldston et al. 2015). In 2015, Barzilay et al. revealed that the young adolescence who have low proximity and belongingness with the parents and have the higher level of burden were at the high risk of suicidal ideation and suicidal attempts. It is also proposed that the suicide interpersonal theory might be applicable for the young adults.

Particularly in young males, the antisocial behavior is linked with the suicidal behavior (Holden, 1986). It is reported that among the adolescents the antisocial behavior is more prevailing with the suicidal ideation (Myers et al., 1991), attempting suicides (Apter et al., 1988), and actually committing suicides (Mehdi & Raouf, 2021).

The results of this research showed for H_1 that was “there would be a positive correlation between antisocial behavior and suicidal ideation among adults. The results of this research showed in table 3 for H_1 that found significant positive correlation between antisocial behavior and suicidal ideation among adults. The results of present research are similar with past studies, this clearly depicts the connection between the aggression and suicidal behavior (Zhang et al., 2012), highly impulsive reflexes (Wang et al., 2014), antisocial behavior (Mehdi & Raouf, 2021), conduct or disruptive disorders and including the various disorders whose conduct would be disruptive in nature (Wyman et al., 2009). Furthermore, many researches have depicted that the suicidal behaviors basically create the external visibility of the emotions which are the significant indicators of the problem solving and poor level of self-control as well leading towards the cognitive discrepancy likely to engage in the suicidal behaviors and attempts (Tyler et al., 2003). Meanwhile, in many other studies also found that often the individuals with antisocial behaviors also depicts the depressive symptomologies (Heerde et al., 2019), suicidal thoughts accompanying the suicidal attempts as well and (Chowanec et al., 1991). The results of present research are similar with above cited researches, so H_1 of this research is accepted.

The results of present research showed for H_2 that was “permissive parenting style would moderate between antisocial behavior and suicidal ideation among adults.” In table 4 results found permissive parenting style was found to be a significant moderator and predictor of suicidal ideation. Additionally, the plot 1 showed that the nature of the relationship between antisocial behavior with suicidal ideation become positive for both (low and high) permissive parenting style. The results of this research similar with past studies, Ishak et al. (2012) and Hamon and Schrodt (2012) found parenting styles were moderator. In another study, considerable support has found for a link between development of antisocial behavior and parental care in adolescence. That is, vigorous evidence has been assimilated representative the existence of a positive relationship between permissive parenting and antisocial behavior (Kiran et al., 2019). The results of this research are supported through previous studies, so H_2 is accepted.

The results of this research showed for H_3 that was “authoritarian parenting style would moderate between antisocial behavior and suicidal ideation among adults.” In table 4 results found authoritarian parenting style was found to be a significant moderator and predictor of suicidal ideation. Additionally, the plot 2 showed that the nature of the relationship between antisocial behavior with suicidal ideation become positive for both (low and high) authoritarian parenting style. The results of current research are similar with previous studies, various parenting styles are linked with the children’s level of suicidal ideation and risks, but such behaviors are dependent upon the traditional framework. Meanwhile, the authoritarian parenting has the positive relationship with the depressive symptomology implemented upon the older individuals (Greening et al. 2010). It is also proposed that the suicidal ideation in the children and parenting styles as merely particular to the age group, ethnicity, race and the strength of the suicidal attempts and the behaviors of children. Moreover, there are many factors which are linked with the attribution and forming of various attitudes due to the influence of the interaction between the child and different parenting styles which would increase the suicidal risk as well. A study was conducted among Chinese, who were students of age 15 years to 19 years, they reported that higher level of control through the mother side and lack of warmth from both parents are strong predictor of the risks

related to the suicidal attempts and ideations (Lai & Chang, 2001). Additionally, the parent's responses and behaviors are strongly associated with the feature and aspects of the child's nature which eventually makes the paths related to suicidal behavior more difficult and complicated.

Many researches with the youngsters propose that the parenting styles can impact on the suicidal tendencies in the individuals at least factors too. Parenting styles can also cause a great sense of self-harm or risk for the young individuals who may harm themselves, further it is also reported that the relationship between the parents and child which are categorized as the lack of warmth and communication may leads towards the higher risk factors of the suicidal ideations among the young individuals (Connor & Rueter 2006). Another study depicted that in the parent-child relationships there is the association between the lack of affection, warmth and suicidal ideation in young adults (Nunes & Mota, 2017). Adverse and violent parenting styles, which is actually an aspect of authoritarian parentings is also related to the suicidal tendencies in the adolescents (Gau et al., 2008). Similarly, it was reported by Greening et al. (2010) there are chances of reduced suicidal behaviors due to the authoritarian parenting among the children of age 10-12 in the Africa and America. The results of this research are similar with past studies, so H₃ is accepted in this research.

The results of this research showed for H₄ that was "authoritative parenting style would moderate between antisocial behavior and suicidal ideation among adults." In table 4.4 results found authoritative parenting style was found to be a significant moderator and predictor of suicidal ideation. Additionally, the plot 3 showed that the nature of the relationship between antisocial behavior with suicidal ideation become negative for both (low and high) authoritative parenting style. The results of this research similar with past studies, In Germany, students were examined, findings depicted that the parenting with the authoritative style decreases the suicidal risk (Donath et al. 2014). There are many other studies found negative association between authoritative parenting style and antisocial behavior (Roche et al., 2007; Smith & Farrington, 2004). The results of this research are supported through previous studies, so H₄ is accepted.

Limitation and Strengths

The present research encompassed of population that based on three cities of Punjab only; generalizability of results on whole Punjab Pakistan cannot be claimed. Antisocial behavior reputable a strong significant predictor in suicidal ideation and parenting styles confirmed a moderator between antisocial behavior and suicidal ideation. For upcoming researchers, it is advised to study antisocial behavior and parenting styles (separate or both) as a predictive factor with other decision-making phenomena. It should be commissioned qualitatively as in other psychological problems.

CONCLUSION

Conclusively, antisocial behavior increases the risk of suicidal ideation among adults and positively impact on suicidal ideation. Further, parenting styles epically permissive and authoritarian positively associated with antisocial behavior and suicidal ideation. Whereas, authoritative parenting style negatively correlated with antisocial behavior and suicidal ideation among adults. Interestingly, parenting styles (permissive, authoritarian, & authoritative) moderate the relation between antisocial and suicidal ideation.

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