



The Relationship of Intolerant Behavior and Depressive Symptoms with Mediating Role of Anger Outbursts and Worries among School Children

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Abstract

The rise of emotional disturbances among school children worldwide is a concerning issue that warrants our attention. The present study examines the relationship between intolerant behavior and sadness, focusing on the mediating roles of anger and worry in children experiencing emotional disturbances. The current study was conducted from October 2019 to September 2020 in multiple educational institutions throughout the Faisalabad district of Pakistan. Among the 615 individuals targeted, 500 met the established inclusion and exclusion criteria for the study. The sample comprised an equal distribution of 250 males and female girls. The individuals involved in our research ranged in age from 9 to 14 years. The Distress Tolerance Scale and the Children Emotional Management Scale were implemented. The analysis of data was conducted using SPSS Version 26. The findings demonstrate substantial associations between the inhibition, dysregulation of emotion, and coping subscales of anger, concern, and sadness ($p < .001$), regulation ($p < .001$), tolerance ($p < .001$), and absorption ($p < .001$). Hierarchical regression analysis indicates that the subscales of distress tolerance, anger, and worry strongly forecast depressive emotions ($R^2 = .51$; $F = 20.78$; $p < .001$). The results indicate that anger and worry act as substantial mediators between intolerant behavior and worry in emotionally troubled school children ($R^2 = .425$; $F(5,394) = 58.125$, $p < .001$). The findings indicate that reduced tolerance capacity is associated with increased anger and worry-related emotions. A high degree of anger and worry reflects the intensity of sadness experienced by children.

Keywords: Intolerant Behavior, Sadness Emotion, Anger and Worried Behavior, Children

Introduction

Mental health issues in children and adolescents include a range of emotional and behavioral problems, such as depression, anxiety, and internalizing or externalizing problems, are common in preschool and school-aged children. The emotional disturbances observed in children present a prevalent challenge for parents, educators, and mental health practitioners¹. Over the past three decades, there has been a significant rise in emotional and behavioral issues among children worldwide, particularly in less developed countries². In recent decades, numerous countries, notably those within the developing sector, have experienced substantial economic progress and societal transformation³.

The swift progression of societal evolution and transformation inevitably exacerbates social competition, thereby imposing considerable psychological pressure on the younger generation⁴. The occurrence of emotional challenges in children varies between 9.3% and 33%, with antisocial behaviors and conduct disorders emerging as the most commonly identified issues within each category⁵. Distress tolerance pertains to an individual's ability to manage and endure actual or perceived emotional distress. It involves managing an emotive incident without intensifying the circumstances. Individuals with diminished distress tolerance frequently encounter feelings of overwhelm in high-stress situations and may resort to maladaptive or detrimental coping strategies to navigate these challenging emotions⁶. Children display diverse temperaments and reactions to situations; however, they frequently encounter increased vulnerability in intense circumstances, resulting in perceived emotional disturbances that can significantly affect their social interactions and academic performance. Distress triggers various negative cognitions, behaviors, and emotions in children, potentially resulting in considerable emotional challenges, harmful personality development, or psychiatric disorders⁷.

Anxiety is linked to unfavorable occurrences that an individual anticipates may transpire in the future⁸. Systematic alterations in emotional dynamics during childhood and adolescence. Mental health issues correlate with increased variability and reduced intensity of positive affect, alongside heightened anxiety and greater variability in sadness⁹. Individuals displaying elevated and diminished levels of trait intolerance of uncertainty exhibit markedly different behavioral, cognitive, and affective responses to situational uncertainty concerning an anticipated adverse event¹⁰. Sadness shows up as feelings of inferiority, loss, hopelessness, grief, helplessness, disappointment, and sorrow¹¹. Compared to men, female children showed more anxiety; they also served as a mediator in the link between intolerance of uncertainty and anxiety¹². Childhood is a time when one experiences anger often. On average, school-age children claimed to be angry once a day; their degree of anger was more often categorized as severe than moderate or low¹³. Unhealthy social-emotional development relies on dispositional anger and a poor attention span; thus, attention management indicates effective cognitive self-regulation of negative emotions such as rage¹⁴. Distress tolerance is closely associated with emotion regulation and is an important concept affecting anger and aggression in both adults and adolescents¹⁵. The belief in intolerance, despite lacking evidence, results in frustration and anger, which may manifest in both physical and verbal aggression¹².

This study analyzed the influence of distress tolerance on emotional disturbances in children, focusing on the ways in which behaviors related to anger and worry exacerbate feelings of sadness. This study examines the relationship between distress tolerance and the dimensions of anger, worry, and sadness in emotionally troubled school children.

Materials and Methods

Research Design: In this study, a correlational design was employed. Government College University Faisalabad's Institutional Review Board (IRB) gave the permission for the studies 2018–2020 protocol. Several educational institutes in the Punjab Province districts of Faisalabad and Lahore were contacted to recruit participants.

Sample Size and Sampling: The sample size for the study was determined using G-Power software (version 3.1.9.4), incorporating an effect size of 0.40. The G-Power calculator has ascertained that a sample size of 396 participants. During the course of this investigation, we engaged the participation of more than 615 school children. Among the total of 615 participants, 500 individuals meet the specified inclusion and exclusion criteria for the study. Participants were selected employing a purposive sampling methodology. The study included a sample of 250 male participants and 250 female participants, all aged between 9 and 14 years, with a mean age of 14.57 years and a standard deviation of 1.18. The participants were selected from all socio-economic statuses. The participants exhibited educational qualifications that spanned from middle to intermediate levels.

Inclusion and Exclusion Criteria: Participants were selected exclusively based on how tightly they adhered to the established inclusion and exclusion criteria. Children were categorized according to a specified set of criteria. Educators observed that the student encountered difficulties in academic performance, exhibited minimal participation in classroom activities, and disengaged from social interactions. Parents indicated manifestations of emotional distress and obstinacy in the child. The study also encompassed cases of seeking clinician support for the child's mental health. The study included children exhibiting minor emotional, behavioral, social, and academic challenges. Participants with mild psychological conditions were excluded from the research. Participants were excluded if they had intellectual disabilities, medical conditions, or psychiatric disorders.

Demographic information and In-depth interview: To start, we gathered detailed demographic information from the children, their instructors, and the patients about their academic, personal, and daily life. In order to acquire a better understanding of the child's academic, cognitive, emotional, behavioural, and social challenges, a comprehensive clinical interview was conducted with both the patient and their teachers.

The Distress Tolerance Scale (DTS; Simon & Gaher 2005)¹⁶ : The current investigation employed the 14-item DTS. The original 14-item version of the DTS was utilized due to the time period in which the data were collected. The DTS scale comprises four components: (1) an individual's capacity to tolerate emotions (tolerance); (2) the evaluation of the emotional situation as acceptable (appraisal); (3) the extent of attention consumed by the negative emotion and its interference with functioning (absorption); and (4) the ability to regulate emotion (regulation). Items are evaluated using a 5-point Likert scale (5=Strongly disagree to 1=Strongly agree), where higher scores indicate increased levels of distress tolerance.

The Children Emotional Management Scale: Three fundamental traits characterize the CEMS: concern, frustration, and sadness (25). Each scale domain is delineated by three subscales: emotional regulation coping, inhibition, and dysregulated expressions. Each statement is evaluated using a 3-point Likert scale: hardly ever=1, sometimes=2, and often=3. The Children's Worry Management subscale includes ten items; regulation coping is made up of three items with established reliability; inhibition consists of four items with proven reliability; and dysregulated expression comprises three items with a reliability score of .72. Eleven items on the Children's Anger Management subscale are categorized into three distinct

subscales: coping, which includes four items with a reliability coefficient of .73; inhibition, consisting of four items with a reliability coefficient of .69; and dysregulated expressions, made up of three items with a reliability coefficient of .68. The Children's Sadness Management The subscale comprises twelve items in a similar manner. Emotional regulation coping consists of five components, while inhibition is comprised of four elements. Dysregulated expressions include three items, with reliability estimates of .62, .77, and .60, respectively.

Results

Table 1 Demographics Statistics of the Sample (N = 500)

Basic Characteristics	Males (250) M ± SD	Females (250) M ± SD
Age	9.96 ±2.05	14.29 ± 2.00
Residence	1.74 ±0.44	1.83 ± 0.38
Education	1.98 ±0.66	2.01 ± 0.64
Parents education	2.33 ±0.86	2.25 ± 0.80
Father occupation	1.66 ±0.36	1.10 ± 0.30
Monthly income	2.50 ±1.26	2.33 ±1.15
Siblings	3.76 ±1.70	3.76 ±1.61
Birth order	2.59 ±1.46	2.53 ±1.38
Family income	1.56 ±0.49	1.65 ±0.48
Tolerance	7.17 ±3.14	7.17 ±2.66
Absorption	9.09 ±2.59	9.20 ±2.42
Regulation	6.94 ±2.56	7.29 ±2.39
Appraisal	16.42 ±4.24	16.59 ±3.76
Intolerant behavior	39.61 ±12.11	40.25 ±10.82
Inhibition	6.93 ±1.24	7.01 ±1.10
Dys. Emotions	6.12 ±1.13	6.14 ±1.17
Coping	8.07 ±1.67	7.86 ±1.54
Worry	21.11 ±1.25	21.01 ±0.95
Inhibition	8.87 ±1.61	8.81 ±1.39
Dys. Emotions	6.13 ±1.342	6.07 ±1.29
Coping	7.67 ±1.74	7.62 ±1.65
Anger	22.67 ±1.82	22.49 ±1.44
Inhibition	8.32 ±1.84	8.50 ±1.58
Dys. Emotions	10.71 ±2.23	10.60 ±1.99
Coping	5.59 ±1.39	5.49 ±1.29
Sadness	24.62 ±2.83	24.58 ±2.51

$p = <.05$; Dys.= Dysregulated (Participants demographics characteristics has been shown in table 1)

Table 2 Correlation Statistics of Distress Tolerance Scale and Subscales with Anger, Worry and Sadness and their Subscales among Emotional Disturbed School Children (N=500)

Variables		Appraisal	Regulation	Tolerance	Absorption	IB
Anger		-.75**	-.74**	-.72**	-.72**	-.77**
	INH	-.74**	-.74**	-.76**	-.76**	-.78**
	DYS	-.63**	-.63**	-.65**	-.65**	-.67**
	COP	.42**	.43**	.48**	.48**	.47**
Sadness		-.45**	-.50**	-.39**	-.42**	-.46**
	INH	-.56**	-.57**	-.56**	-.55**	-.59**
	DYS	-.46**	-.50**	-.42**	-.45**	-.48**
	COP	.54**	.52**	.60**	.57**	.58**
Worry		-.36**	-.33**	-.26**	-.26**	-.32**
	INH	-.56**	-.56**	-.54**	-.53**	-.58**
	DYS	-.50**	-.44**	-.54**	-.48**	-.51**
	COP	.52**	.50**	.60**	.55**	.57**

Note. INH = Inhibition; COP = coping; DYS = Dysregulated emotion; IB = Intolerant behavior ** $P < 0.01$

Correlation of anger worry and sadness with their subscales on appraisal, regulation, tolerance, absorption and intolerant behavior shows that there is significant correlation among all these variables (Table 2).

Table 3 Pearson Product Moment Correlation Analysis of Demographic Characteristics, Distress Tolerance, Anger, Worry and Sadness among Emotional disturbed Children (N = 500)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Age	-	.08	.12*	.02	.06	.03	-.04	-.01	-.01	-.00	-.02	.00	.02	.03	.07	-.02	.03	.03	.03	.01	-.03	.04	.00
2 GEN		-	.02	.00	-.02	.08	.02	.07	.02	.00	.02	.03	-.06	.01	-.04	-.02	-.02	-.01	-.05	.05	-.02	-.03	-.00
3 EDU			-	-.13**	-.05	.08	-.00	.03	-.03	-.03	-.01	s.00	-.04	.02	-.03	-.03	-.04	.00	-.06	.01	.01	-.03	.00
4 SIB				-	.72**	.12*	-.10*	-.04	-.11*	-.11*	-.10*	.02	-.05	.02	-.02	.06	.07	-.03	.08	.02	.00	-.06	-.00
5 BO					-	-.06	-.07	-.05	-.09	-.09	-.08	.02	-.06	.04	-.02	.05	.09*	-.08	.04	.04	.02	-.08	.00
6 FI						-	.02	.01	.03	.03	.02	-.04	.02	-.01	-.02	-.03	-.01	.00	-.03	.03	.05	.02	.07
7 APP							-	.87**	.88**	.89**	.96**	-.56**	.52**	-.50**	-.36**	-.74**	-.63**	.42**	-.75**	-.56**	-.46**	.54**	-.45**
8 REG								-	.86**	.85**	.93**	-.56**	.50**	-.44**	-.33**	-.74**	-.63**	.43**	-.74**	-.57**	-.50**	.52**	-.50**
9 ABS									-	.92**	.95**	-.53**	.55**	-.48**	-.26**	-.76**	-.65**	.48**	-.72**	-.55**	-.45**	.57**	-.42**
10 TOL										-	.96**	-.54**	.60**	-.54**	-.26**	-.76**	-.65**	.48**	-.72**	-.56**	-.42**	.60**	-.39**
11 IB											-	-.58**	.57**	-.51**	-.32**	-.78**	-.67**	.47**	-.77**	-.59**	-.48**	.58**	-.46**
12 INHW												-	-.70**	.61**	.66**	.60**	.54**	-.62**	.34**	.77**	.64**	-.68**	.66**
13 COPW													-	-.82**	-.14**	-.56**	-.61**	.80**	-.17**	-.74**	-.48**	.90**	-.40**
14 DAYS														-	.49**	.55**	.68**	-.79**	.23**	.69**	.45**	-.77**	.42**
15 WOR															-	.40**	.39**	-.32**	.35**	.46**	.46**	-.20**	.55**
16 INHA																-	.64**	-.65**	.75**	.62**	.49**	-.58**	.50**
17 DYSA																	-	-.75**	.61**	.57**	.47**	-.63**	.42**
18 COPA																		-	-.17**	-.72**	-.52**	.80**	-.47**
19 ANG																			-	.28**	.29**	-.20**	.31**
20 INHS																				-	.67**	-.80**	.76**
21 DYSS																					-	-.56**	.93**
22 COPS																						-	-.46**
23 SAD																							-
M	18.12	1.50	1.99	3.76	2.56	1.60	16.50	7.11	9.14	7.17	39.93	6.97	7.96	6.13	21.05	8.84	6.10	7.65	22.58	8.41	10.65	5.54	24.60
SD	2.03	0.50	.653	1.659	1.424	.490	4.102	2.485	2.507	2.910	11.47	1.176	1.612	1.153	1.114	1.507	1.318	1.696	1.649	1.714	2.116	1.345	2.676

Note. GEN = Gender; EDU = Education; SIB = No. of Siblings. BO = Birth Order; FI = Family Income; APP = Appraisal; REG = Regulation; ABS = Absorption; TOL = Tolerance; IB = Intolerant Behavior; INHW = Inhibition Subscale Worry; COPW = Coping Subscale Worry; DYSA = Dysregulated Emotion Worry; WOR = Worry; INHA = Inhibition Subscale Anger; DYSA = Dysregulated Emotion Anger; COPA = Coping Subscale Anger; ANG = Anger; INHS = Inhibition Subscale Sadness; DYSS = Dysregulated Emotion Sadness; COPS = Coping Subscale Sadness; SAD = Sadness; SD, Standard Deviation. *p < 0.05; **p < 0.01; ***p < .001

Correlation between demographics and study variables is given in table 4.

Table 4 Mediating Role of Worry and Anger in a Relationship between Intolerant Behavior and Sadness among School Children (N=500)

Antecedent	Consequent								
	Anger			Worry			Sadness		
	Coeff.	SE	P	Coeff.	SE	p	Coeff.	SE	P
Constant	27.02	.19	.001	22.32	.19	.001	13.40	3.16	.001
DTS	-.77	.01	.001	-.33	.01	.001	-.49	.01	.001
Worry							.48	0.9	.001
Anger							-.23	0.9	.001
Covariates									
Age	.01	.02	.55	.06	.02	.15	-.03	.051	.04
Gender	-.03	.10	.02	-.04	.10	.38	.01	.205	.50
	$R^2 = .600$			$R^2 = .112$			$R^2 = .425$		
	$F(3,396) = 197.645, p < .001$			$F(3,396) = 16.571, p < .001$			$F(5,394) = 58.125, p < .001$		

Note. Coeff= standardized regression coefficient; DTS= Distress Tolerance Scale

Results of mediation analysis shows that worry and sadness strongly mediate the relationship between intolerant behavior and sadness among emotional disturbed school children (Table 4).

Table 5 Indirect Effects of Worry and Anger, between Intolerant Behavior and Sadness among Emotional Disturbed School Children (N=500)

Mediator	Effect	Boot SE	95% Boot CI	
			Boot LL	Boot UL
Worry	-.157	.031	-.219	-.099
Anger	.182	.075	.040	.334

Note. Effect = standardized regression coefficient, Boot CI = bootstrapped confidence interval, Boot LL = bootstrapped lower limit, Boot UL = bootstrapped upper limit

Mediation results demonstrated that distress tolerance significantly predicted worry, anger, and sadness. Worry and anger emerged as significant predictors of sadness. Concurrent. The results indicated significant partial mediation. The indirect effects of worry (effect = -0.15, bootstrap interval = 0.03) and anger (effect = -0.18, bootstrap interval = 0.07) are reported (table 5).

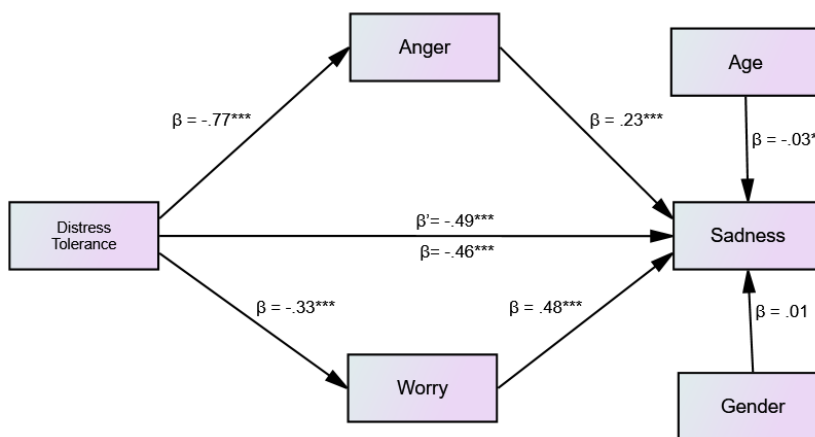


Figure 1

Mediating Role of Worry and Anger in a Relationship between Intolerant Behavior and Sadness among School Children (N=500).

Results shows that both anger and worry significant mediate the relationship between distress intolerance sadness among school children (Figure 1).

Discussion

Our study results indicate that intolerant behavior has a significant correlation with sadness, which serves as a primary cause of emotional disturbance in adolescents. Anger and worry play a crucial role in mediating the relationship between intolerant behavior and sadness, thereby influencing the degree of emotional disturbance experienced by children¹⁷. Distress intolerance leads to excessive worry in children. When they are unable to tolerate uncertainty, they worry about potential threats or negative outcomes. Fear of intense emotions like anxiety or fear themselves worsens worry patterns¹⁸. Early anxious and worried behavior in children can disrupt normal development and lead to severe psychopathology later on. Excessive worry evolves into obsessive-compulsive symptoms, avoidance behaviors strengthen irrational fears developing problems in childrens¹⁹.

Research reveals a significant connection between low distress tolerance and increased anger in children with emotional disturbance. Children who struggle to regulate their emotions and cope with distressing situations exhibit more frequent and intense anger outbursts, leading to aggressive behavior²⁰. In children, worry and coping behavior are intimately connected. When children worry excessively, they employ maladaptive coping strategies such as avoidance, distraction, rumination etc. Maladaptive coping maintain or worsen anxiety levels in children²¹. Excessive worries in children trigger a cascade of negative effects leading to depressive symptoms. Chronic stress activation sparks constant anxiety, disrupting emotional regulation and leading to mood swings. Negative thought patterns emerge, characterized by hopeless and helpless thinking, further decreasing self-esteem through negative self-talk and self-blame²².

Stress and worry directly disrupt emotional balance, leading to dysregulation because they overload the brain's emotional processing centers. Children develop heightened sensitivity as a result of emotional disturbances, which can undermine their confidence and alter their attitudes. When stressed and worried, individuals experience a surge in stress leading to emotional dysregulation symptoms like anxiety, irritability, depression, and explosive anger outbursts²³. The presence of low anxiety and sadness behaviors in children serves to bolster their confidence, inversely relates to depressive symptoms, and fosters a positive association with coping mechanisms²⁴.

Our research indicates a notable positive correlation between anger and worry with sadness in children. Tolerant behavior significantly supports children's emotional resilience by teaching them to cope with negative emotions. When children witness and experience tolerant behavior, they learn to acknowledge and accept feelings rather than suppressing or escalating them. Tolerance fosters a safe environment where children feel comfortable expressing emotions openly, allowing adults to model healthy emotional regulation. As a result, children develop essential coping skills, emotional awareness, self-regulation, and resilience, enabling them to navigate negative emotions like anxiety, anger, and sadness in a healthy and constructive manner²⁵. Intolerance is significantly linked to worry, resulting in anxiety-related symptoms in children. It remains unclear whether children's sadness is more closely linked to distress

tolerance or if this association is more accurately accounted for by other emotions, such as worry and anger 26.

The study findings indicate that tolerance plays a crucial role in preventing emotional disturbances in children. Low tolerance is associated with heightened anger and anxiety-related emotions in children, which in turn predict various negative behaviors. Elevated levels of anger and worry-related emotions contribute to an increased prevalence of sadness in children, which is a significant factor in emotional disturbances among this population. Children in early to mid-adolescence experiencing a transition period, characterized by low tolerance and heightened feelings of anger, worry, and sadness, may perceive significant crises during this stage, potentially leading to severe psychiatric disorders.

Conclusion: Young individuals experiencing slight emotional disturbances demonstrate diminished tolerance and intensified sensations of sadness. The observation of heightened anger and worry-related emotions has been noted, leading to an amplification of the intensity of feelings associated with sadness. The capacity to tolerate distress exhibits a notable correlation with emotions such as anger, worry, and sadness.

Limitation and Implications: To improve the applicability of the study's findings, it is essential to gather sample data from various regions across Pakistan, as the current sample is somewhat restricted. The focus of our study was exclusively on children exhibiting minor emotional disturbances, which consequently limited our exploration of the influence of anger and anxiety in relation to more severe psychiatric issues. The present research offers valuable insights for policymakers, educators, counsellors, parents, and clinicians, enabling them to comprehend, cultivate, and tackle emotional challenges through sophisticated techniques, interventions, and modalities.

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