

# Article Understanding Adolescent Psychological Distress: The Impact of Rejection Sensitivity and Rumination

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# ABSTRACT

Background: Adolescents are particularly vulnerable to psychological distress due to heightened emotional reactivity and developmental transitions. While rejection sensitivity and rumination have been independently linked to adverse emotional outcomes, their combined effect on psychological distress remains underexplored, especially in non-Western populations. **Objective:** This study aimed to examine the interrelationship among rejection sensitivity, rumination, and psychological distress in adolescents, and to assess the predictive role of rejection sensitivity on rumination and both variables on psychological distress. Methods: A cross-sectional observational study was conducted involving 518 adolescents (ages 14-18) from government and private schools in Rawalpindi and Islamabad, selected using purposive sampling. Inclusion criteria included current enrollment in school and age between 14 and 18 years; individuals outside this age range or with incomplete data were excluded. Participants completed the Rejection Sensitivity Questionnaire, the Rumination-Reflection Questionnaire (rumination subscale), and the Depression Anxiety Stress Scale-21. Ethical approval was obtained from the institutional ethics committee, and all procedures complied with the Declaration of Helsinki. Data were analyzed using SPSS v27. Correlation and multiple regression analyses were employed to examine associations and predictive relationships among variables. Results: Rejection sensitivity showed a significant positive correlation with rumination (r = 0.28, p < .01) and psychological distress (r = 0.21, p < .01). Rumination also correlated positively with psychological distress (r = 0.13, p < .05). Regression analysis revealed that rejection sensitivity significantly predicted rumination ( $\beta$  = 0.108, p = .003), explaining 6% of its variance. Combined, rejection sensitivity and rumination accounted for 29% of the variance in psychological distress ( $R^2 = 0.29$ , p < .001), with rumination having a stronger predictive effect ( $\beta$  = 0.502, p < .001). Male adolescents reported significantly higher rumination levels than females (p < .001). **Conclusion**: Rejection sensitivity and rumination are significant, interrelated psychological mechanisms contributing to adolescent psychological distress. These findings highlight the importance of early identification and cognitive-emotional intervention strategies to mitigate distress and promote mental health in adolescents.

**Keywords**: Adolescent Psychology, Rejection Sensitivity, Rumination, Psychological Distress, Depression, Anxiety, Mental Health

## INTRODUCTION

Adolescence is a critical developmental stage marked by heightened emotional sensitivity, social vulnerability, and an increased susceptibility to psychological distress. During this period, interpersonal experiences play a pivotal role in shaping mental well-being. Among these, rejection sensitivity-defined as the tendency to anxiously expect, readily perceive, and intensely react to social rejection-and rumination-repetitive and passive focus on negative emotions-have emerged as significant cognitive-emotional mechanisms that influence adolescent mental health (1). While each has been independently linked to depression, anxiety, and emotional dysregulation, the interaction between rejection sensitivity and rumination, and their combined contribution to psychological distress, remains underexplored. This gap in literature forms the central premise of the current study. Extant research suggests that adolescents who are highly sensitive to social rejection tend to overinterpret ambiguous social cues as negative or exclusionary, triggering maladaptive emotional responses (2). This cognitive vulnerability often intersects with a ruminative response style, where individuals repetitively analyze distressing events and emotions without active problem-solving (3). Over time, this interaction can lead to sustained psychological distress, including symptoms of depression, anxiety, and stress, especially in the context of developing cognitive and emotional regulation capacities during adolescence (4). Neurobiological changes occurring during puberty, such as increased limbic reactivity and delayed prefrontal cortical maturation, further exacerbate these vulnerabilities by heightening emotional reactivity while limiting effective emotional control (5). Adolescents' strong desire for peer acceptance, combined with these physiological and psychological changes, intensifies their sensitivity to perceived social threats, thereby increasing the likelihood of ruminative thinking and emotional disturbance (6).

Previous studies have demonstrated that rejection sensitivity is associated with poor peer relationships, increased social withdrawal, and heightened internalizing symptoms (7). Similarly, rumination has been identified as a risk factor for persistent negative mood states and the development of psychopathology in youth (8). However, few studies have examined how these two processes might interact to compound emotional difficulties during adolescence. Some evidence suggests that rejection sensitivity may predict greater rumination, as adolescents dwell on real or perceived experiences of exclusion, thereby creating a feedback loop that perpetuates distress (9). Yet, the directionality and strength of this predictive relationship remain unclear, particularly in collectivist cultures like Pakistan, where social expectations and familial norms may amplify adolescents' emotional responses to rejection.

Given the theoretical and empirical significance of these constructs, this study seeks to investigate the interrelations among rejection sensitivity, rumination, and psychological distress in a sample of Pakistani adolescents. Specifically, it aims to determine whether rejection sensitivity predicts rumination, and whether both factors jointly predict psychological distress. Additionally, the study explores potential gender differences in these variables, considering evidence that boys and girls may differ in emotional expression and coping styles due to sociocultural conditioning (10). By addressing a notable gap in the literature and incorporating context-specific variables, this research aims to contribute to a nuanced understanding of adolescent psychological distress and inform culturally relevant mental health interventions. Accordingly, the present study poses the following research questions: What is the relationship between rejection sensitivity, rumination, and psychological distress among adolescents? Does rejection sensitivity predict rumination? Do rejection sensitivity and rumination predict psychological distress? Finally, are there significant gender differences in these variables?

# MATERIALS AND METHODS

This study employed a cross-sectional, correlational design to explore the relationships among rejection sensitivity, rumination, and psychological distress in adolescents aged 14 to 18 years. A total of 518 participants (52.9% males, 47.1% females) were recruited using a purposive sampling technique from various public and private schools and colleges in Rawalpindi and Islamabad, Pakistan. Adolescents enrolled in matriculation or intermediate-level education were eligible to participate, provided they fell within the specified age range. Individuals outside this age range or not currently enrolled in school were excluded from participation. Recruitment was facilitated through formal permissions obtained from the Federal Directorate of Education, which issued approval letters for access to educational institutions. After institutional permissions were secured, students who met the inclusion criteria were briefed on the study, and written informed consent was obtained. Participants were assured of the voluntary nature of their participation and their right to withdraw at any stage without consequences. Ethical principles of confidentiality and anonymity were strictly maintained throughout the research process in accordance with the Declaration of Helsinki.

Participants were assessed using standardized, validated selfreport instruments. The primary outcomes included levels of rejection sensitivity, rumination, and psychological distress. Rejection sensitivity was measured using the Rejection Sensitivity Questionnaire (RSQ), originally developed by Downey and Feldman. The RSQ employs a six-point Likert scale, where higher scores indicate greater sensitivity to social rejection; in the current study, it demonstrated moderate internal consistency with a Cronbach's alpha of 0.66. Rumination was assessed using the Rumination subscale of the Rumination-Reflection Questionnaire (RRQ) by Trapnell and Campbell, consisting of 12 items rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The rumination subscale yielded a Cronbach's alpha of 0.58. Psychological distress was measured through the Depression Anxiety Stress Scale (DASS-21), developed by Lovibond and Lovibond, which comprises 21 items distributed equally across three subscales: depression, anxiety, and stress. Responses are recorded on a four-point Likert scale, and the scale exhibited high reliability in the present study ( $\alpha$  = 0.83). In addition to these primary measures, a demographic questionnaire was used to collect participants' background information including age, gender, educational level, family structure, and socioeconomic status.

Data were analyzed using IBM SPSS Statistics version 27. Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated to summarize demographic characteristics and scale scores. Pearson correlation analysis was used to assess the relationships among rejection sensitivity, rumination, and psychological distress. Simple linear regression was employed to evaluate whether rejection sensitivity predicted rumination, and multiple linear regression analysis was conducted to examine the combined predictive role of rejection sensitivity and rumination on psychological distress. Independent samples t-tests were conducted to determine gender-based differences in the study variables.

The threshold for statistical significance was set at p < .05. Given the purposive sampling method and limited geographic scope, the generalizability of the findings to broader populations may be restricted. However, the study provides valuable preliminary insights into the psychological mechanisms affecting Pakistani adolescents.

## RESULTS

The aim of this study was to examine the relationships among rejection sensitivity, rumination, and psychological distress in

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adolescents, and to assess the predictive roles of rejection sensitivity and rumination on psychological distress. Data were collected from a sample of 518 adolescents aged 14-18 years. This section presents descriptive statistics, reliability estimates, bivariate correlations, and regression analyses, followed by gender-based comparisons.

Descriptive statistics and internal consistency reliability (Cronbach's alpha) for all study variables are presented in Table 1. The mean score for rejection sensitivity was  $9.51 \pm 3.15$  with moderate reliability ( $\alpha = 0.66$ ). Rumination scores averaged 16.06  $\pm$  21.2, also with moderate reliability ( $\alpha$  = 0.58), although the large standard deviation relative to the mean suggests potential skewness or variance issues that may require further distributional checks.

The combined Depression Anxiety Stress Scale (DASS-21) had a mean total score of 22.6 ± 10.4 and demonstrated excellent internal consistency ( $\alpha$  = 0.83). Subscale reliabilities were strong: Depression ( $\alpha$  = 0.76), Anxiety ( $\alpha$  = 0.81), and Stress ( $\alpha$  = 0.80).

## Table 1. Descriptive Statistics and Reliability Estimates for Study Measures (N = 518)

Variable	Mean (M)	SD	Range	α
Rejection Sensitivity (RSQ)	9.51	3.15	22	0.66
Rumination (RRQ - RUM)	16.06	21.20	91	0.58
Reflection (RRQ – REF)	3.05	0.509	3.1	0.61
Psychological Distress (DASS-21)	22.60	10.40	51	0.83
Depression (DEP)	7.47	4.44	19	0.76
Anxiety (ANX)	9.15	4.37	20	0.81
Stress (STR)	6.07	3.80	18	0.80

The socio-demographic profile of the participants is summarized in Table 2. The mean participant age was approximately 16 years. A slightly higher proportion of participants were male (52.9%) than female (47.1%). Most participants (74.9%) came from nuclear families, and the majority (54.2%) reported middle socioeconomic status. Regarding education, 80.9% were enrolled at the intermediate level, and 19.1% at the matriculation level.

#### Table 2. Socio-Demographic Characteristics of Participants (N = 518)

Variable	Category	Frequency (n)	Percentage (%)
Age	14	33	6.4
	15	58	11.2
	16	148	28.6
	17	176	34.0
	18	103	19.9
Gender	Male	274	52.9
	Female	244	47.1
Family Structure	Nuclear	388	74.9
	Joint	130	25.1
Parental Status	Both Alive	507	97.9
	Separated	11	2.1
Socioeconomic Status	Lower	122	23.6
	Middle	281	54.2
	Upper	115	22.2
Education	Matriculation	99	19.1
	Intermediate	419	80.9

Pearson's correlation analysis revealed significant positive correlations among the main variables (see Table 3). Rejection sensitivity was moderately correlated with rumination (r = 0.28, p < .01) and psychological distress (r = 0.21, p < .01). Rumination was also positively correlated with psychological distress (r = 0.13, p < .05). These results suggest a shared variance between these constructs and a potential cumulative effect on distress. A simple linear regression was conducted to determine whether rejection sensitivity predicted rumination.

The model was statistically significant (F(1, 516) = 6.15, p = .003), with rejection sensitivity positively predicting rumination ( $\beta$  =

0.108, p = .003). However, the model explained a small portion of the variance ( $R^2$  = 0.06), indicating a limited predictive power

A multiple linear regression was then conducted to examine whether rejection sensitivity and rumination jointly predicted psychological distress. The model was significant (F(2, 515) = 105.23, p < .001), explaining 29% of the variance in psychological distress (R<sup>2</sup> = 0.29). Both predictors contributed significantly: rejection sensitivity ( $\beta$  = 0.160, p < .001) and rumination ( $\beta$  = 0.502, p < .001), indicating rumination had a stronger effect on psychological distress. Independent samples t-tests were conducted to explore gender differences in rejection sensitivity, rumination, and psychological distress. Results showed no

rumination scores, with males (M =  $20.99 \pm 26.01$ ) reporting higher rumination than females (M =  $10.51 \pm 11.62$ ), t(516) = 5.79, p < .001.

## Table 3. Pearson's Correlation Matrix of Rejection Sensitivity, Rumination, and Psychological Distress (N = 518)

Variable	1	2	3
1. Rejection Sensitivity	_		
2. Rumination	0.28**	_	
3. Psychological Distress	0.21**	0.13*	_

Note: p < .05; p < .01.

## Table 4. Simple Linear Regression: Rejection Sensitivity Predicting Rumination (N = 518)

Predictor	В	SE	β	t	р	95% CI
Constant	2.98	0.75	_	39.76	.000	[2.83, 3.12]
<b>Rejection Sensitivity</b>	0.019	0.007	0.108	2.48	.003	[0.004, 0.033]

## Table 5. Multiple Linear Regression: Rejection Sensitivity and Rumination Predicting Psychological Distress (N = 518)

Predictor	В	SE	β	t	р	95% CI
Constant	-13.09	2.48	_	-5.28	.000	[-17.96, -8.22]
Rejection Sensitivity	0.530	0.123	0.160	4.29	.000	[0.29, 0.77]
Rumination	9.733	0.722	0.502	13.48	.000	[8.31, 11.12]

## Table 6. Gender Differences in Rejection Sensitivity, Rumination, and Psychological Distress (N = 518)

Variable	Male (M ± SD)	Female (M ± SD)	t	р	95% CI
<b>Rejection Sensitivity</b>	9.68 ± 3.14	9.30 ± 3.15	1.23	.216	[-0.201, 0.888]
Rumination	20.99 ± 26.01	10.51 ± 11.62	5.79	.000	[6.92, 14.03]
Psychological Distress	22.73 ± 9.88	22.64 ± 11.08	0.102	.919	[-1.71, 1.90]

These findings highlight the importance of considering rumination as a critical psychological mechanism in adolescent distress, particularly among males. Rejection sensitivity, while significant, appeared to have a more modest direct effect.

# DISCUSSION

The present study explored the interrelationship between rejection sensitivity, rumination, and psychological distress among Pakistani adolescents, and examined their predictive roles in emotional well-being. The findings revealed significant positive correlations among all three variables, with rejection sensitivity emerging as a modest predictor of rumination, and both constructs jointly accounting for a substantial proportion of variance in psychological distress. These results corroborate prior theoretical and empirical literature, underscoring adolescence as a psychologically vulnerable developmental period in which social cognition and affect regulation play pivotal roles in mental health outcomes (1).

Consistent with Downey and Feldman's conceptualization of rejection sensitivity as an enduring cognitive-affective disposition that predisposes individuals to interpret ambiguous social cues as signs of rejection (2), this study found that adolescents with higher levels of rejection sensitivity exhibited greater psychological distress.

Importantly, rejection sensitivity was also significantly associated with increased rumination, a finding that aligns with earlier work by Pearson et al., who documented that adolescents sensitive to rejection are more likely to engage in repetitive negative thinking patterns (3). This supports the hypothesis that rejection sensitivity does not act in isolation but potentiates distress via maladaptive cognitive processes such as rumination.

Rumination, in turn, demonstrated a robust direct effect on psychological distress, in agreement with Nolen-Hoeksema's response styles theory, which posits that a ruminative coping style exacerbates and prolongs depressive and anxious symptoms (4). In this study, rumination emerged as a stronger predictor of distress than rejection sensitivity, suggesting its central role in mediating emotional dysregulation. The observed magnitude of this relationship emphasizes the need to target ruminative tendencies in clinical interventions aimed at reducing distress among adolescents. The developmental susceptibility of the adolescent brain to emotional dysregulation–especially due to asynchronous maturation of limbic and prefrontal systems–may amplify the psychological consequences of both rejection and maladaptive cognitive styles (5).

Comparative analysis with past research reveals consistency in findings across cultural contexts. For instance, studies conducted in Western and Asian populations have similarly documented associations between rejection sensitivity, rumination, and negative affective states in adolescents (6, 7). However, the current study adds to the literature by examining these relationships within a South Asian cultural context, where collectivist values, social cohesion, and high parental expectations may intensify adolescents' sensitivity to interpersonal cues and exacerbate the ruminative cycle. The gender difference observed in rumination, with males reporting higher levels than females, deviates from many Western studies that typically report higher rumination in females (8). This divergence may be explained by cultural constructs of masculinity in Pakistani society, where emotional suppression and lack of adaptive coping resources could compel boys to internalize stress through rumination, ultimately heightening distress(9).

The clinical implications of these findings are significant. They highlight the potential utility of early screening for rejection sensitivity and ruminative tendencies in school-based mental health programs. Targeted interventions such as cognitivebehavioral therapy (CBT), mindfulness-based approaches, and social-emotional learning curricula could be particularly effective in helping adolescents reframe rejection experiences and interrupt ruminative cycles. Moreover, fostering emotional intelligence and resilience may buffer against the negative effects of these psychological vulnerabilities.

Despite its contributions, the study is not without limitations. The use of a cross-sectional design precludes causal inference, making it difficult to establish the temporal sequence between rejection sensitivity, rumination, and distress. The sample was geographically restricted to schools in Islamabad and Rawalpindi, which may limit the generalizability of the findings to other adolescent populations in Pakistan or South Asia. Additionally, the reliance on self-report measures introduces the risk of social desirability bias, especially given cultural stigmas around mental health disclosure. Notably, the internal consistency of the rumination subscale was lower than desirable ( $\alpha = 0.58$ ), which may have affected the precision of the findings related to this construct.

Future research should adopt longitudinal designs to better understand the developmental trajectories and causal relationships among these variables. Investigating potential mediators and moderators-such as emotion regulation skills, parental attachment styles, or peer dynamics-could offer deeper insights into mechanisms of vulnerability and resilience. Moreover, exploring interventions that specifically target rejection sensitivity and rumination in culturally adapted formats will be essential in designing effective prevention and treatment programs.

In conclusion, this study reinforces the theoretical and empirical understanding of rejection sensitivity and rumination as critical contributors to adolescent psychological distress. The findings suggest that adolescents who are hypersensitive to rejection are more likely to engage in maladaptive ruminative thinking, which substantially increases their risk for emotional suffering. Addressing these factors in early adolescence through culturally sensitive mental health initiatives is vital for promoting longterm psychological resilience and well-being in this population.

# CONCLUSION

This study concludes that rejection sensitivity and rumination are significant, interrelated contributors to psychological distress among adolescents, with rumination serving as a strong mediator in this association. These findings underscore the importance of early identification and targeted intervention for cognitive-emotional vulnerabilities during adolescence-a JHWCR

critical period for mental health development. The demonstrated predictive role of rejection sensitivity on rumination, and their combined impact on psychological distress, highlights a potential psychological pathway through which emotional suffering manifests in youth. Clinically, these results support the integration of cognitive-behavioral and emotion regulation strategies into adolescent mental healthcare to mitigate distress linked to perceived social rejection and maladaptive thought patterns. From a research perspective, the study advances understanding of the cognitive mechanisms underlying adolescent psychological distress and encourages longitudinal and culturally sensitive exploration of these variables to inform more precise prevention and intervention strategies.

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