

Worry, Rumination, Depressive and Anxiety Problems among Adolescents

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Abstract: Worry and rumination are generally considered a specific cognitive vulnerability factor that seems to be involved in the etiology and maintenance of depressive and anxiety problems. The existing study aimed to investigate the relation among worry, rumination, depressive and anxiety problems among secondary schools' adolescents, hence, a descriptive cross sectional study design was used. Demographic Characteristics sheet of adolescents, The Penn State Worry Questionnaire for Children, Ruminative Response Scale and Beck Depression Inventory & Beck Anxiety Inventory and were used as a self-administered questionnaires to collect data from 480 secondary schools' student. Study results revealed that there were significant positive correlation between worry, rumination, depressive and anxiety problems. Conclusion: worry and rumination contribute to adolescents' depressive and anxiety problems. Consequently it is recommended to conduct school and community-based mental health promotion and prevention programmes directed toward adolescents, their families, educational staff and others who have direct contact with adolescents. And consider worry and rumination clinically can be effective in treatment of depression and anxiety.

Keywords: worry, rumination, depressive, anxiety problems.

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I. Introduction

Adolescence is the period that begins with puberty and ends with the transition to adulthood. [1] Actually, not all adolescents are so fortunate to get the ideal societal support for this smooth transition since it is marked by immense turmoil in emotional and behavioral spheres. So, some develop maladaptive patterns in emotional and behavioral spheres. Which results in depression, delinquency and suicides among other problems.[2]

Depression in adolescents is a serious public health concern. Approximately 11% of youth will experience depression. [3] This problem is associated with downstream negative consequences later in adolescence such as academic difficulties, risky behavior engagement and non-suicidal self injury and in adulthood such as lower income levels, higher divorce rates and suicidality.[4]

Similar to depression, anxiety problems are among the most common psychiatric disorders occurring in 5% to 19% of all children and adolescents.[5] Furthermore, those with higher levels of impairment and disability due to anxiety are particularly at elevated risk of developing secondary other mental disorders especially depression.[6]

Worry can be defined as a relatively uncontrollable chain of thoughts about the possible negative outcome of future events, whereas rumination can be defined as a tendency to repeatedly think about one's feelings and problems.[7]

Worry and rumination are both thought to be unproductive cognitive thought processes that trigger negative emotions and maintain negative affect. [8] These two types of negative valenced repetitive thoughts are known in research to be implicated in many disorders, including unipolar-depressive disorders, obsessive-compulsive disorder (OCD), and generalized anxiety disorder (GAD) [9].

1.1 Significance

Depressive and anxiety problems in adolescence show a high co-morbidity with other mental disorders, and are predictive for the occurrence of mental disorders in adulthood.[10] On the other hand, it poses precarious consequences for adaptive psychological development as well as social and academic adjustment.[11] According to a recent meta-analytic review, global prevalence of these problems is about 6.50% for anxiety and 2.60% for depressive problems in adolescents.[12] Thus, there is an importance for understanding the multi-factorial processes underlying these symptoms with respect to developmental aspects

that cannot be understated and may have fruitful implications on clinical prevention and intervention in adolescence.[13]

1.2. Aim:

The current study aimed to investigate the relation among worry, rumination, depressive and anxiety problems among secondary schools' adolescents.

II. Methodology

2.1. Research questions:

1-What is the relation among worry, rumination, depressive and anxiety problems among secondary schools' adolescents?

2.2. Design:

Descriptive cross sectional study design was used to conduct the current study.

2.3. Setting:

The present study was carried out in four secondary schools (Shiba mixed, Gamal Abd-elnaser for girls, Alsadat for girls and Alsadat for boys) affiliated to Zagazig city, which is an Egyptian city located in Sharkia governorate (in the east of Nile delta).

2.4. Sample:

A total of 480 students selected from the previous mentioned settings according to inclusion criteria.

2.5. Inclusion criteria:

- a- Ages from 15 to 17 years.
- b- Both gender.
- c- Free from physical disability or chronic illness.
- d- Agreement of students to participate in the study.

2.6. Tools of Data Collection: Two Tools Were Used to Collect the Necessary Data as Follows

Tool (I): Repetitive negative thoughts: it consists of three parts:

1- **Demographic characteristics of adolescents** to assess the personal characteristic of the students and their parents

2- **The Penn State Worry Questionnaire for Children** from 12-18 years[14]to measure the tendency to engage in excessive generalized and uncontrollable worry. It consists of 14items scale. The scale rated on a 4-point Likart scale. Ranging from (1) never true to (4) always true. Those scored as follows:

- High = >60%
- Low = <60%

3-**Ruminative Response Scale** [15] to measure rumination. It consists of a 22-item scale. The scale rated on a 4-point Likart scale. Ranging from (1) almost never to (4) almost always. Those scored as follows:

- High = >60%
- Low = <60%

Tool (II): Depression and anxiety symptoms: it consists of two parts:1-**Beck Depression Inventory** [16]to measure symptoms of DSM-IV depression. It consists of 21 groups of statements related to symptoms of depression that the subject has had during the past 2 weeks (including the day you take it) such as hopelessness, irritability and cognition including guilt and feeling of being punished, as well as physical symptoms such as fatigue and loss of appetite. The researchers removed the statement number 21 which ask about the interest in sex as it was not suitable for the age and culture of the required sample, from the point of view of the experts. It's rated on a 4point

Likart scale from (0) not at all to (3) severe. Those scored as follows:

- Mild = 14-19
- Moderate = 20-28
- Severe = 29-63

2- **Beck Anxiety Inventory** [17] to measure symptoms of DSM-IV anxiety. It consists of 23items. The questions used in this measure ask about common symptoms of anxiety that the subject has had during the past 2 weeks (including the day you take it) (such as numbness and tingling, sweating not due to heat and fear of the worst happening). It's rated on a 4point scale ranging from (0) not at all to (3) severe. Those scored as follows:

- Mild = 10-16
- Moderate = 17-29
- Severe = 30-63

2.7. Field work

Once permission was granted to proceed with the study, the researchers explained the study aim and procedures, as well as data collection forms to the directors of the four selected schools, and the purpose and the nature of the study were explained to the students, voluntary participation and confidentiality were ensured. The students were asked to fill in the questionnaire sheet under the guidance of the researcher after taken their oral approval. The student took about 40 to 45 minutes for answering the questions. The field work of this study extended from the beginning of the 1st semester in October 2018 till the end of the semester in December 2018.

2.8. Pilot study

A pilot study was conducted on 48 students (constituting about 10 percent of the total study sample) to estimate the time required for filling the sheet, and to evaluate the applicability of the tool. The scales did not need for any modification Also; it was found that the average time to fill in all tools was 40-45 minutes. The shared students in the pilot study were not included in the main study sample.

2.9. Ethical consideration

The students were given a verbal description of the aim of the study, the benefits, and nonparticipation or withdrawal rights at any time without giving any reason. Additionally, they were informed that their participation in this study is voluntary and anonymity of each participant was protected by the allocation of code number for each student. The researcher stressed on a confidentiality of the gathered information and will be used only for the purpose of the study.

2.10. Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 20). For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, frequencies, and percentages. Correlation between variables was evaluated using Pearson's correlation coefficient (r) to estimate the closeness association between variables, T-test and Chi-square test. Probability (p-value) less than 0.05 was considered significant and less than 0.01 was considered as highly significant. Whenever the expected values in one or more of the cells in a 2x2 tables were less than 5, Fisher exact test was used instead.

2.11. Administrative design

Official permissions were obtained from the Education Directorate at Zagazig city based on letters from the post graduate affairs, faculty of nursing explaining the aim of the present study. The General Director referred the researcher to the directors of the selected schools with approval letters. Then the researcher met with each of them and explained the aim of the study and the nature of tool used for data collection. The researcher gave the director of each school a copy of the tool and the formal letters.

III. Results

Table 1 shows socio-demographic characteristics of the studied students. The sample consisted of (480) students (67.7%) were female. The mean age was (15.8±0.7) (45.0%) were less than 17 years old. Also, (70.8 %) of the studied students lived in urban areas. Regarding father and mother education, (60.8 %) of students' fathers and (55.0%) of students' mothers were university graduates. As for fathers and mothers' job, (40.4%) of fathers were professionals. while, (66.5%) of mothers were housewives.

Table 1: Socio-demographic characteristics of secondary schools' adolescents in the study sample (n=480)

Characteristics	Frequency	Percent
Age:		
<16	187	39.0
16	216	45.0
17+	77	16.0
Range	14.0-18.0	
Mean±SD	15.8±0.7	
Median	16.00	
Gender:		
Male	155	32.3
Female	325	67.7
Residence:		

Rural	140	29.2
Urban	340	70.8
Father education:		
Illiterate/ Read/write	14	2.9
Basic	51	10.6
Secondary	123	25.6
University	292	60.8
Mother education:		
Illiterate/ Read/write	16	3.3
Basic	52	10.8
Secondary	148	30.8
University	264	55.0
Father job:		
Professional	194	40.4
Employee	160	33.3
Worker	126	26.3
Mother job:		
Housewife	319	66.5
Working	161	33.5

Table 2 reveals the relation among worry, rumination, depression and anxiety symptoms. Highly worried adolescents were statistically significantly more likely to be high ruminated (46.0%)(P-value=<0.001), with severe depressive symptoms (70.1%) (P-value=<0.001) and severe anxiety (56.1%)(P-value=<0.001) .

Table 2: Relations among secondary schools' adolescents worry and their ruminative response, depression, and anxiety

	Penn State Worry				X ² test	p-value
	High		Low			
	No.	%	No.	%		
Ruminative response:						
High (60%+)	109	46.0	128	54.0	71.89	<0.001*
Low (<60%)	27	11.1	216	88.9		
Beck depression symptoms:					98.61	<0.001*
None	6	5.6	102	94.4		
Mild	37	19.8	150	80.2		
Moderate	46	39.0	72	61.0		
Severe/extreme	47	70.1	20	29.9		
Beck anxiety symptoms:					93.12	<0.001*
None	5	8.2	56	91.8		
Mild	14	11.2	111	88.8		
Moderate	29	21.2	108	78.8		
Severe	88	56.1	69	43.9		

Table 3 shows the relation among rumination, depressive and anxiety symptoms. Highly ruminated adolescents were statistically significantly more likely to have severe depression (91.0%)(P-value=<0.001), and severe anxiety (86.6%)(P-value=<0.001) .

Table 3: Relations among secondary schools' adolescents' ruminative response and their depression, and anxiety

	Ruminative response				X ² test	p-value
	High		Low			
	No.	%	No.	%		
Beck depression symptom:					119.55	<0.001*
None	17	15.7	91	84.3		
Mild	77	41.2	110	58.8		
Moderate	82	69.5	36	30.5		
Severe	61	91.0	6	9.0		
Beck anxiety symptom					162.80	<0.001*
None	5	8.2	56	91.8		
Mild	29	23.2	96	76.8		
Moderate	67	48.9	70	51.1		
Severe	136	86.6	21	13.4		

Table 4 shows the relation between adolescents' depression and anxiety. Mild depressed adolescents were statistically significantly more likely to have moderate anxiety (54.7%)(P-value=<0.001), moderate depressed adolescents were significantly more likely to have severe anxiety (38.9%) (P-value=<0.001) and severe depressed adolescents were significantly more likely to have severe anxiety (35.7%)(P-value=<0.001).

Table 4: Relations between secondary schools' adolescents' depression and anxiety

	Depression symptoms								X ² Test	p-value
	None		Mild		Moderate		Severe			
	No.	%	No.	%	No.	%	No.	%		
Beck anxiety symptoms:										
None	41	67.2	13	21.3	5	8.2	2	3.3	230.30	<0.001*
Mild	45	36.0	61	48.8	17	13.6	2	1.6		
Moderate	20	14.6	75	54.7	35	25.5	7	5.1		
Severe	2	1.3	38	24.2	61	38.9	56	35.7		

Table 5 points for that worry was statistically significantly positively correlated with rumination, depression and anxiety. Rumination was statistically significantly positively correlated with depression and anxiety. As well as, depression was statistically significantly positively correlated with anxiety.

Table 5: Correlation between repetitive negative thoughts, vulnerability factors and emotional problems (n=480).

Scales	Spearman's rank correlation coefficient			
	Scales			
	Worry	Ruminative	Depression	Anxiety
Penn State worry				
Ruminative response	.606**			
Depression	.533**	.643**		
Anxiety	.580**	.708**	.671**	

IV. Discussion

The current study investigated the relation among worry, rumination, depressive and anxiety problems among secondary schools' adolescents aged 15–18 years old and determined the prevalence rates of depression and anxiety among the same age group. The main results can be catalogued as follows. To begin with, the socio-demographic characteristics of the studied students, the current study revealed that the majority of the studied students aged less than 17 years old and the mean age was 15.8±0.7. This might be explained by the rules of education in Egypt that the students attend secondary education at the age of 15 years old. Similar finding was reported by [18] who found that the mean age of the students were 15.8. Also, more than two thirds of the studied students (67.7%) were females. This may be attributed to the increasing of turnout from female sex toward secondary education, the commitment of girls at schools and the school escape phenomena that characterizes boys' schools. This goes in line with [19] who conducted a study in 21 schools in New Zealand and found that the female participants represent (53.6%). Regarding repetitive negative thoughts, the current study showed that more than one fifth of the studied students had high worry and about half (49.4%) of the studied students were highly ruminated.

Concerning the role of repetitive negative thoughts in the vulnerability for emotional problems, the current study revealed a statistical positive significant relationship between worry and rumination. This is attributed to more similarities between the two symptoms rather than differences. To be definite, [20] found that while thought content and goal orientation could discriminate between worry and rumination, three shared qualities of the thinking processes underlying them. Firstly, thought processes are considered to be repetitive; secondly, thought processes are difficult to control; and thirdly, thought processes are focused on negative content. Further, it appears that uncontrollable levels of repetitive negative thinking are present across a large range of clinical disorders and appear to be causally involved in the maintenance of emotional problems.

Specifically, the current study revealed that both worry and rumination are significantly associated with both anxiety and depressive symptoms. This may be attributed to the high co-morbidity between depressive and anxiety symptoms and the view that a repetitive intrusive thought pattern is the common characteristic of worry and rumination. This is in agreement with [21] whom findings suggested that ruminative thinking, worry as well as stressful life events are involved in the development of both anxiety symptoms and depressive symptoms. Another study conducted in turkey by [22] showed that worry does not only significantly relate with anxiety but also the depressive symptoms and rumination does not only significantly relate with depression but also anxiety. On the contrary, [23] reported that worry is more predictive to anxiety and depression while rumination is only a predictor for depression. Studies conducted by [24] and [21] confirmed that rumination is more related to depression than anxiety.

V. Conclusion

In the light of the current study results it can be concluded that; *worry and rumination contribute to adolescents' depressive and anxiety problems.*

VI. Recommendations

Conducting of school and community-based mental health promotion and prevention programmes directed toward adolescents, their families, educational staff and others who have direct contact with adolescents in collaboration with other health providers and school staff to increase awareness about mental disorders during adolescence and facilitate access to counseling and referral for adolescents with mental disorders.

Considering the worry and rumination clinically in specific strategies such as acceptance commitment therapy and mindfulness can be effective in management of depression and anxiety problems.

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