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Impact of Self-Generated Thoughts on Anxiety Symptoms Among University Students: Mediating Role of Rumination

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The present study aimed to investigate the impact of self-generated thoughts (daydreaming) on symptoms of anxiety among university students. Furthermore, mediating role of rumination was also studied. A sample of 300 university students aged 18-28 years and with minimum education of 14 years was collected through purposive sampling technique from different universities of Rawalpindi and Islamabad. Self-report measures including Day-Dreaming Frequency Subscale of Imaginal Process Inventory (Singer & Antrobus, 1970) Ruminative Response Scale (Treynor, Gonzalez, & Nolen-Hoeksema, 2003), and Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988) were administered to measure study variables. Results yielded self-generated thoughts as a significant positive predictor of anxiety symptoms, whereas rumination was found to significantly predict anxiety in positive direction. Moreover, rumination mediated the relationship between self-generated thoughts and symptoms of anxiety. Female students scored significantly higher on daydreaming, rumination, and anxiety symptoms as compared to male university students. This study will be helpful for mental health professionals to gain a better understanding that how daydreaming can have an impact on individual's cognition and thus can raise more awareness about dangers associated with excessive daydreaming.

Keywords: self-generated thoughts, daydreaming, anxiety, rumination, university students

Anxiety depicts numerous physiological and mental conditions, including a person's conscious mode of worry over a potential

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undesired occurrence, or fright of real situation (Evans et al., 2005). According to a large population-based community survey carried out in Germany, up to 33.7 percent of the people face an anxiety disorder during their life span (Bandelow & Michaelis, 2015). The state of expression called anxiety is probably experienced in occasions that are negative. Various researches (Ciarrochi, Chan, & Bajgar, 2001; Connor & Slear, 2009; Fernandez-Berrocal, Alcaide, Extremera, & Pizarro, 2006; Sunil & Rooprai, 2009) reported a negative association between anxiety and emotional intelligence. There is a direct impact of emotions on thoughts to help improve thinking, acting, and decision making. However, thinking and reasoning is based on emotional evidence. The guidelines show how exactly thinking is affected by emotions. Individuals in negative mood focus more on the fine points and the quest for faults finding become more critical. However, positive mood leads to additional, enhanced outputs. Furthermore, it also encourages the open and wide side of the world (Emmerling, Shanwal, & Mandal, 2008).

In recent decades, self-generated thoughts (i.e., daydreaming or mind-wandering; Raichle et al., 2001) have turned out to be a critical subject for studies (Mason et al., 2007; Smallwood & Schooler, 2006). Self-Generated Thoughts (SGT) are followed by practicing daydreaming and mind-wandering, which depicts that our mind can generate thoughts in a stimulus-independent mode (Smallwood, 2013), by utilizing the existing knowledge. Daydreaming as a mental baseline is a continuous experience. As stated by Killingsworth and Gilbert (2010), an individual consumes 30 percent to 50 percent of mental activities aimed awakening time in thinking (Franklin et al., 2013; Klinger & Cox, 1987) which is not related to what was done by us or with the actual situation. SGT was linked with broad range of advantages (Christoff, Gordon, Smith & Vancouver, 2011), supporting its constant results as it permits individual to face future challenges, solve problems, and operate ones societal world (Mooneyham & Schooler, 2013; Smallwood & Andrews-Hanna, 2013; Smallwood & Schooler, 2006). The advantages of self-generated thoughts are progressively investigated related to various areas (Mooneyham & Schooler, 2013), such as autobiographical planning, delayed gratification, and creative thinking (Baird et al., 2012; Smallwood et al., 2011; Smallwood et al., 2013). Therefore, the outcome, daydreaming (Andrews-Hannan, Smallwood, & Spreng, 2014; Klinger, 2009) if exclusively described by negative cognitions then it is related with psychopathologies such as anxiety, schizophrenia, dissociation, and depression. There is an accord among researchers that university students experience more maladaptive

daydreaming and social anxiety (Somer, 2002; Somer & Herscu, 2017; Somer, Soffer-Dudek, & Ross, 2017). Maladaptive daydreaming was defined as excessive daydreaming that impacts on individual's social and functional life (Sommer, 2002; Sommer & Soffer-Dudek, 2018).

Researchers figure out the ideal condition for rumination, as it is being internally concentrated during the rest state which enables the growth of self-connected material. Rumination commonly increases the symptoms of depression (Aldao, Nolen-Hoeksema, & Schweizer, 2010). During self-generated thoughts, external information (Barron, Riby, Greer, & Smallwood, 2011; Smilek, Carriere, & Cheyne, 2010) is refined to a lesser degree, that was constantly reported by literature, and the insulation of train of thoughts. The external disturbances results (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008) in decreased handling, which could further increase ruminative thinking. Depression normally takes on the mode of rumination, which determines a tendency to react into a sad mood by passively and repetitively focusing on the cause and consequences of negative emotions along with the focus on negative past events (Nolen-Hoeksema & Morrow, 1993). Over 90% of problems related to mental health include depression and anxiety (Goldberg, Bridges, & Cook, 1990). In Pakistan, 25-30% of population is suffering from depression and anxiety (Ali et al., 2002; Mumford, Minhas, Akhtar, Akhtar, & Mubbashar, 2000). Comorbidity of anxiety symptoms with symptoms of depression has also been found to be common (Clark & Watson, 1991; Mineka, Watson, & Clark, 1998).

Decades ago, Singer and Rowe (1962) established that daydreaming is linked with numerous anxiety processes. Other researchers also examined which daydreaming styles are associated with psychopathologies (Crawford, 1982; Segal & Singer, 1976). Worry, a basic feature of anxiety, emphasizes on possible negative forthcoming events and strategies to overcome such events to happen (Borkovec & Inz, 1990). Repetitive thinking about risks, imagined catastrophes, uncertainties, and potential future threats is linked with anxious worrying (Borkovec, Robinson, Pruzinsky, & DePree, 1983; Watkins, 2008). Schwartz and Koenig (1996) found an association between rumination and anxiety symptoms. Rumination refers to the method of repeated and passive thinking related to negative emotions, concentrating on the symptoms of worrying and distress, about the meaning and outcomes of the distress. A longitudinal study on adolescents stated that anxious symptoms increase when rumination occurs. It was stated that there is a reciprocal unknown association exists between anxiety symptoms and ruminative thinking.

Furthermore, it was believed that over time rumination, depressive, and anxiety symptoms showed mediation pattern which was sequential. It was also stated that anxiety and ruminative thinking are empirically and conceptually linked concepts and support each other (Nolen-Hoeksema et al., 2008). However, rumination and anxiety evidently share similar characteristics, in which they both are unproductive, ruminative thinking concentrated on pessimistic occasions, both cognitive methods show particular characteristics (Watkins, 2008).

All the above-mentioned researches have been conducted in West whereas in Eastern countries like Pakistan, nearly most of us experience daydreaming at some point of our life. It can be either pleasurable or un-pleasurable. Nevertheless, if people are having persistent and un-pleasurable daydreams, this can potentially influence their everyday life and tasks (Inam, 2017). Due to increased rate of anxiety symptoms around the world (Bandelow & Michaelis, 2015), there is a need to address the mediating role of rumination in the relationship between self-generated thoughts and anxiety in Pakistani population. In the literature review, it was found that there are few studies in Pakistan which have focused the problem of daydreaming. In Pakistan, the relationship among daydreaming, perceived social support, and loneliness was investigated among university students (Yousaf, Ghayas, & Akhtar, 2015) and findings showed that loneliness was leading to the phenomena of daydreaming. The literature also highlighted the link between daydreaming and anxiety. Another study in Pakistan focused on maladaptive daydreaming and its possible triggers, symptoms, and remedies (Inam, 2017). Findings showed that daydreaming is more prevalent among women as compared to men. It was also suggested that women are more inclined to daydream, as they are more dissatisfied with their lives. Other studies (Butler & Nolen-Hoeksema, 1994; Broderick & Korteland, 2002; Jose & Brown, 2008; Nolen-Hoeksema & Morrow, 1993) concluded that females are more into rumination as compared to males in a sample of adolescents as well as in adults. Nizamuddin (2016) also found that rumination was more common in women than men. The reason was that emotions are internalized by women. On the other hand, men externalize emotions. Additionally, men have other channels to distract their minds whereas women mostly stay at home. As a result, women have less chance to air out and process their negative thoughts (Nizamuddin, 2016). All the afore-mentioned studies conducted on anxiety, rumination, and daydreaming laid foundations for the current study. In Pakistan, 25 percent to 30 percent of population experience anxiety or depression at some stage of their

life (Ali et al., 2002; Mumford et al., 2000). Therefore, current study aimed to find out the mediating role of rumination in the relationship between self-generated thoughts and symptoms of anxiety among university students. Following hypotheses were drawn based on previous literature:

1. Self-generated thoughts will positively predict anxiety symptoms among university students.
2. Rumination will positively predict anxiety symptoms among university students.
3. Self-generated thoughts will positively predict rumination among university students.
4. Rumination will mediate the relationship between self-generated thoughts and anxiety symptoms among university students.
5. Girls will show higher levels of daydreaming, rumination, and anxiety symptoms than boys in universities.

Method

Participants

A sample of university students (N = 300), including girls (n = 150) and boys (n = 150) was collected from different universities of Islamabad and Rawalpindi. Only those students were selected who had at least 14 years of formal education. The sample comprised of 5.3 percent (n = 16) Undergraduates, 42.3 percent (n = 127) Graduates and 52.3 percent (n = 157) Postgraduates. Age range of the sample was from 18 to 28 years (M = 23.76, SD = 2.65). Sample was collected through purposive sampling method.

Instruments

In the present study, the following instruments were used along with the demographic variables age, gender, and education. In present study all instruments were used in English version.

Day-Dreaming Frequency Scale (DDFS). The subscale 'Daydreaming Frequency Scale' (DDFS) of the Imaginal Processes Inventory (IPI; Singer & Antrobus, 1970) was used. DDFS consists of 12 items that assess the frequency of daydreaming. Scoring is done on a five-point Likert scale with response options ranging from *infrequently* to *frequently*. A score of 1 is given to infrequently and 5 is given to frequent daydreamers. Psychometric properties have been

reported as good to excellent in preceding researches (Singer & Antrobus, 1970; Stawarczyk, Majerus, Van der Linden, & D'Argembeau, 2012). The scale has excellent test-retest reliability as .76 and internal consistency Cronbach's alpha as .91 (Giambra, 1980).

Ruminative Response Scale (RRS). This self-report measure consisting of 22-items (Treynor et al., 2003). It measures usual tendency to think repeatedly. Moreover, it contains items that indicate response to low mood, based on the self, symptoms, or outcomes of the mood. Participants rate their experiences like how much time they engage in that kind of thinking by using a 4-point Likert scale varying from *almost never* (1) to *almost always* (4). RRS comprises of two subscales that are reflection and brooding but for current study it was used as a unifactor measure. Psychometric properties that is, reliability and validity of the instrument were reported to be high by authors. Good internal consistency (α = .88) has been found of this modified instrument (Burwell & Shirk, 2007)

Beck Anxiety Inventory (BAI). It consists of 21-items (Beck et al., 1988) which determine the severity of anxious symptoms among adults and adolescents while minimizing the overlap with symptoms of depression. BAI highlights the psychosomatic symptoms of anxiety and nervousness. Each item has four possible ways to respond with response options scored as *not at All* = 0, *mildly* = 1, *moderately* = 2, and *severely* = 3. The total score for all the symptoms range between 0 and 63 scores. The minimal level of anxiety is interpreted from 0 - 7 scores; "mild" on 8 - 15; "moderate" on 16 - 25, and "severe" on 26 – 63 scores. A study conducted in Pennsylvania, reported high reliability and validity of the instrument. For adults, Cronbach's alpha has been reported to range between .92 and .94. Moreover, test-retest reliability with one-week interval has been reported as .75.

Procedure

Participants of the study were approached at their respective universities and informed about the aims and objectives of the current research. Participants who showed willingness to take part were included in the study. They were handed over the item booklet which was comprised of informed consent, demographic information sheet and series of questionnaires. Students were briefed before distributing the booklet. The confidentiality of the information received from participants was guaranteed and maintained. They were asked to answer the statements honestly. In the end, the researcher acknowledged the participants for their cooperation and participation.

On average, participants took 30-35 minutes to complete the questionnaire booklet. The results were generated after statistical analysis. In order to address the ethical issues, the ethics committee of Foundation University Rawalpindi Campus was consulted, and the ethical protocol was approved by the committee.

Results

To achieve the objectives of the study, bivariate correlation, regression, mean differences and moderation analyses were run by using SPSS 22.

Table 1

Correlation and Descriptive Statistics for Daydreaming, Rumination, and Anxiety Symptoms (N = 300)

	r			*M*	*SD*	*α*	Range		Skew	Kurt
Measures	1	2	3				Potential	Actual		
Daydreaming	-	.37**	.30**	34.01	10.93	.91	12-60	12-57	.12	-.96
Rumination	-	-	.50**	50.88	10.20	.86	22-88	22-85	-.15	.71
Anxiety	-	-	-	15.18	12.39	.93	0-63	1-60	.29	-.16

**$p < .01$.

Table 1 shows significant positive correlations among self-generated thoughts (daydreaming), rumination, and anxiety symptoms. Descriptive statistics are computed to check the overall distribution of data across study variables. The mean value of rumination is bit higher whereas anxiety is low. Skewness and kurtosis show that the data is normally distributed. Cronbach alpha reliability estimates of rumination is .86 whereas self-generated thoughts (daydreaming) and anxiety range from .90 -.93 which is satisfactory as per criteria specified by George (2011).

Table 2

Regression Analysis Showing the Role of Daydreaming and Rumination in Predicting Anxiety (N = 300)

Predictors	*B*	*S.E*	*β*	*t*	*p*	R^2
(Constant)	13.52	2.23		6.05	.00	
Daydreaming						
(Constant)	.34	.06	.30	5.53	.00	.09
Rumination	40.4	1.16		34.82	.00	
	.41	.04	.50	10.04	.00	.25

Table 2 indicates that self-generated thoughts (daydreaming) are a significant predictor of anxiety in positive direction and accounts for 9% (R^2 = .09) of variance in predicting anxiety. Results also reveal that rumination is a significant predictor of anxiety in positive direction and accounts for 25% (R^2 = .25) of variance in predicting anxiety.

Table 3

Differences in Daydreaming, Rumination, and Anxiety Symptoms Across Gender (N = 300)

	Male Students (*n* = 150)		Female Students (*n* = 150)				95% CI		Cohen's *d*
Variables	*M*	*SD*	*M*	*SD*	*t(298)*	*p*	*LL*	*UL*	
Daydreaming	32.95	10.54	35.08	11.24	-1.69	.09	-4.60	.35	.02
Rumination	50.45	11.02	51.33	9.33	-.74	.45	-3.20	1.44	.09
Anxiety	23.40	11.78	27.17	12.73	-2.66	.01	-6.56	-.98	.31

Note. CI = Confidence Interval; *LL* = Lower Limit; *UL* = Upper Limit.

Table 3 illustrates that there are nonsignificant group differences between males and females in terms of self-generated thoughts (daydreaming) and rumination. However, significant gender differences are found in the symptoms of anxiety. Anxiety is reported more by female students as compared to male students. Cohen's *d* is also calculated to measure effect size of mean differences among boys and girls. Cohen's *d* values for daydreaming rumination show negligible effect size, while the *d* value of anxiety shows medium effect size (Cohen, 1977).

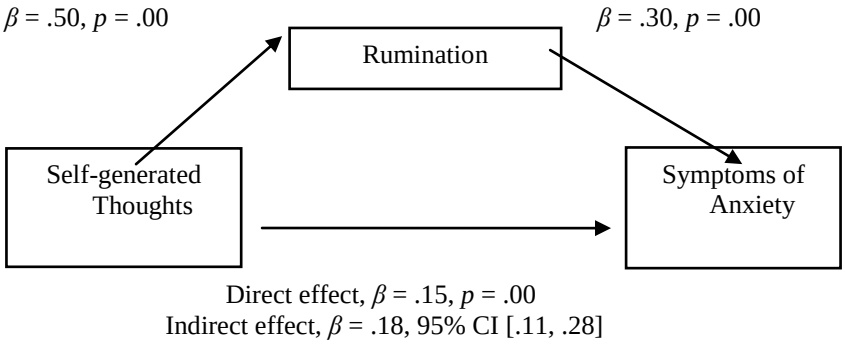

Figure 1. Indirect effect of self-generated thoughts on symptoms of anxiety through rumination.

Figure 1 reveals the mediating role of rumination between self-generated thoughts (daydreaming) and symptoms of anxiety. The results are indicating that rumination is mediating the relationship between self-generated thoughts (daydreaming) and anxiety symptoms showing the maximum variance of 26% (ΔR^2 = .26). The mediating role is further validated by the values of Bootstrap Indirect Effect and the value of Sobel test is Z = 5.28, $p < .05$.

Discussion

Self-generated thoughts and the mental constructs such as daydreaming that are based on it are massively attracting the attention of researchers (Klinger, 2009; Smallwood & Schooler, 2006; Smallwood, 2013) due to their omnipresent impact on psychological health of individuals. Interestingly, the phenomenon of daydreaming has been linked with symptoms of anxiety and depression as well as negative cognitions (Meyer et al., 2011; Smallwood et al., 2007). Keeping in view the literature that suggests a positive association between self-generated thoughts and symptoms of anxiety, in the present study, the mediating role rumination in a relationship between daydreaming and symptoms of anxiety among university students was studied. Previous literature has also linked daydreaming, exclusively if described by negative cognitions, to symptoms of psychopathology, like depression, anxiety, schizophrenia, and dissociation (Klinger, 2009).

It was also proposed that rumination will positively predict anxiety symptoms among university students. In present study, the relationship between rumination and symptoms of anxiety was also established. The correlation analysis revealed that there was a positive correlation between rumination and anxiety symptoms among university students. Prior studies have also considered the connection of anxiety with rumination. They found that rumination longitudinally leads to an increase in the symptoms of anxiety among adolescents (Schwartz & Koenig, 1996). Nolen-Hoeksema et al. (2008) proposed that anxiety and rumination are conceptually as well as empirically interrelated constructs and it is quite possible that they will reinforce each other in due course. Thus, rumination and anxiety may have an unknown reciprocal relationship between them. Furthermore, it is also possible that rumination, depression, and anxiety might result in a sequential mediation pattern over a period of time

Results suggested that self-generated thoughts positively predicted rumination among university students. In present study, the

relationship between self-generated thoughts (daydreaming) and rumination was also established. The correlation analysis revealed that there was a positive correlation between self-generated thoughts (daydreaming) and rumination among university students. Previous literature is in line with the findings of the current research. Marchetti, Koster, and Raedt (2013) explained a comprehensive model that elaborated the role of daydreaming through contribution of several cognitive risk aspects as for example rumination. Therefore, it was hypothesized that rumination will mediate the relationship between self-generated thoughts and anxiety symptoms among university students. The results concluded that rumination was playing the role of mediator between self-generated thoughts and symptoms of anxiety.

Results showed nonsignificant gender differences in self-generated thoughts (daydreaming) and rumination. However, significant differences were found on anxiety among male and female participants. Female participants showed more symptoms of anxiety as compared to males. These findings are in consistent with a study conducted by Qasim (2017). The study concluded that like many other countries, women in Pakistan generally have higher rates of illness than men. Depression and anxiety disorders are also more common among women than men (Qasim, 2017).

Limitations and Recommendations

Collection of the data was done from various universities of Islamabad and Rawalpindi, therefore, findings generated by results cannot be generalized to overall Pakistani population. For better generalizability, future studies should include bigger sample from multiple cities across the country. Moreover, descriptive as well as experimental studies are needed to explain this framework in a better way. This study was cross-sectional; a longitudinal dataset would give more insight into causal processes. For that reason, future studies could include various other important variables to further identify the circumstances under which daydreaming leads to anxiety symptoms. More studies could be carried out on different population and in relation with other possible predictors for further validation. Present study did not consider the possibility of positive effects of self-generated thoughts (daydreaming). Thus, future researchers could focus on the positive effects of daydreaming.

Implications

This study will be useful for mental health professionals to gain a better understanding that how daydreaming can have an impact on individual's cognition and thus can raise more awareness about dangers associated with excessive daydreaming. The present study has implications for educational psychologists and academicians as daydreaming is more common in students, as they spend most of their time in daydreaming. Daydreaming is more common in young people and it reduces with age (Giambra, 2000). The current study provides empirical data to better understand these variables. The present study also establishes the reliability of the instruments used. The study provides insight to excessive daydreaming and rumination to be taken under consideration for intervention programs such as daydream reduction techniques, programs for increasing focus, and engage in activities that sustain attention should be planned for the targeted group with these problems.

Conclusion

The research creates awareness among psychologists, academicians, and researchers that rumination acts as a mediator between self-generated thoughts (daydreaming) and anxiety symptoms among university students. Thus, it is recommended that universities should educate students regarding the significance of rumination. Moreover, students should be provided with services on campus such as counseling centers in order to identify early symptoms and warning signs related to anxiety. In this context, attention must be given to female students as the results of the study indicated that they were more prone to develop anxiety symptoms as compared to male university students.

References

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*(2), 217-237.

Ali, B. S., Rahbar, M. H., Naeem, S., Tareen, A. L., Gul, A., & Samad, L. (2002). Prevalence of and factors associated with anxiety and depression among women in a lower middle class semi-urban community of Karachi, Pakistan. *The Journal of Pakistan Medical Association, 52*(11), 513-517.

Andrews-Hanna, J. R., Smallwood, J., & Spreng, R. N. (2014). The default network and self-generated thought: Component processes, dynamic

control, and clinical relevance. *Annals of the New York Academy of Sciences, 1316*(1), 29-52.

Baird, B., Smallwood, J., Mrazek, M. D., Kam, J. W., Franklin, M. S., & Schooler, J. W. (2012). Inspired by distraction: Mind wandering facilitates creative incubation. *Psychological Science, 23*(10), 1117-1122.

Bandelow, B., & Michaelis, S. (2015). Epidemiology of anxiety disorders in the 21st century. *Dialogues in Clinical Neuroscience, 17*(3), 327-335.

Barron, E., Riby, L. M., Greer, J., & Smallwood, J. (2011). Absorbed in thought the effect of mind wandering on the processing of relevant and irrelevant events. *Psychological Sciences, 22*(5), 596-601.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893-897.

Borkovec, T. D., & Inz, J. (1990). The nature of worry in generalized anxiety disorder: A predominance of thought activity. *Behavior Research and Therapy, 28*(2), 153-158.

Borkovec, T. D., Robinson, E., Pruzinsky, T., & DePree, J. A. (1983). Preliminary exploration of worry: Some characteristics and processes. *Behavior Research and Therapy, 21*(1), 9-16.

Broderick, P. C., & Korteland, C. (2002). Coping style and depression in early adolescence: Relationships to gender, gender role, and implicit beliefs. *Sex Roles, 46*(7-8), 201-213.

Burwell, R. A., & Shirk, S. R. (2007). Subtypes of rumination in adolescence: Associations between brooding, reflection, depressive symptoms, and coping. *Journal of Clinical Child and Adolescent Psychology, 36*(1), 56-65.

Butler, L. D., & Nolen-Hoeksema, S. (1994). Gender differences in responses to depressed mood in a college sample. *Sex Roles, 30*(5-6), 331-346.

Christoff, K., Gordon, A., Smith, R., & Vancouver, B. C. (2011). The role of spontaneous thought in human cognition. *Neuroscience of Decision Making*, 1, 259-284.

Ciarrochi, J., Chan, A. Y., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences, 31*(7), 1105-1119.

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100*(3), 316-336.

Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (Rev. ed.). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

Connor, B., & Slear, S. (2009). Emotional intelligence and anxiety; Emotional intelligence and resiliency. *International Journal of Learning, 16*(1), 249-260.

Crawford, H. J. (1982). Hypnotizability daydreaming styles, imagery vividness, and absorption: A multidimensional study. *Journal of Personality and Social Psychology, 42*(5), 915-926.

Emmerling, R. J., Shanwal, V. K., & Mandal, M. K. (2008). *Emotional intelligence: Theoretical and cultural perspectives.* New York: Nova Publishers.

Evans, D. L., Foa, E. B., Gur, R. E., Hendin, H., O'Brien, C. P., Seligman, M. E., & Walsh, B. T. (Eds.). (2005). *Treating and preventing adolescent mental health disorders: What we know and what we don't know.* Oxford University Press.

Fernandez-Berrocal, P., Alcaide, R., Extremera, N., & Pizarro, D. (2006). The role of emotional intelligence in anxiety and depression among adolescents. *Individual Differences Research, 4*(1), 16-27.

Franklin, M. S., Mrazek M. D., Anderson C. L., Smallwood J., Kingstone A., & Schooler J. W. (2013). The silver lining of a mind in the clouds: Interesting musings are associated with positive mood while mind-wandering. *Frontiers in Psychology, 4*, 583-586. Retrieved from https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00583/full

George, D. (2011). *SPSS for windows step by step: A simple study guide and reference, 17.0* (10th ed.). New Delhi: Pearson Education India.

Giambra, L. M. (1980). Sex differences in daydreaming and related mental activity from the late teens to the early nineties. *International Journal of Aging and Human Development, 10*(1), 1-34.

Giambra, L. M. (2000). Frequency and intensity of daydreaming: Age changes and age differences from late adolescent to the old-old. *Imagination, Cognition and Personality, 19*(3), 229-267.

Goldberg, D., Bridges, K., Cool, D., Evans, B., & Grayson, D. (1990). The influence of social factors on common mental disorders: Destabilization and restitution. *British Journal of Psychiatry, 156*(5), 704-713.

Inam, A. (2017, September 15). *Maladaptive daydreaming: Possible triggers, symptoms and remedies*. Retrieved from https://newspakistan.tv/maladaptive-daydreaming-possible-triggers-symptoms-remedies

Iqbal, S., Gupta, S., & Venkatarao, E. (2015). Stress, anxiety, & depression among medical undergraduate students and their socio-demographic correlates. *Indian Journal of Medical Research, 141*(3), 354-357.

Jose, P. E., & Brown, I. (2008). When does the gender difference in rumination begin? Gender and age differences in the use of rumination by adolescents. *Journal of Youth & Adolescence, 37*(2), 180-192.

Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science, 330*, 932-932. Retrieved from http://www.danielgilbert.com/KILLINGSWORTH%20%26%20GILBERT%20(2010).pdf

Klinger, E. (2009). Daydreaming and fantasizing thought flow and motivation. In Markman K. D., Klein W. M. P., & Suhr J. A. (Eds.).

Handbook of imagination and mental simulation (pp. 225-240). New York, NY: Psychology Press, Inc.

Klinger, E., & Cox, W. M. (1987). Dimensions of thought flow in everyday life. *Imagination Cognition and Personality, 7*(2), 105-128.

Marchetti, I., Koster, E. H. W., & De Raedt, R. (2013). Rest-related dynamics of risk and protective factors for depression: A behavioral study. *Clinical Psychological Sciences, 1*(4), 443-451.

Mason, M. F., Norton, M. I., Van Horn, J. D., Wegner, D. M., Grafton, S. T., & Macrae, C. N. (2007). Wandering minds: The default network and stimulus-independent thought. *Science, 315*, 393-395.

Mineka, S., Watson, D., & Clark, L. A. (1998). Comorbidity of anxiety and unipolar mood disorders. *Annual Review of Psychology, 49*(1), 377-412.

Mooneyham, B. W., & Schooler, J. W. (2013). The costs and benefits of mind-wandering: A review. *Canadian Journal of Experimental Psychology, 67*(1), 11-18.

Mumford, D. B., Minhas, F. A., Akhtar, I., Akhtar, S., & Mubbashar, M. H. (2000). Stress and psychiatric disorder in urban Rawalpindi: Community survey. *The British Journal of Psychiatry, 177*(6), 557-562.

Nizamuddin, M. (2016, Oct 28). *The inimical effects of rumination exploring and finding solutions*. Retrieved from http://blogs.jpmsonline.com

Nolen-Hoeksema, S., & Morrow, J. (1993). Effects of rumination and distraction on naturally occurring depressed mood. *Cognition & Emotion, 7*(6), 561-570.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science, 3*(5), 400-424.

Qasim, M. (2017, April 7). *Number of people living with depression on the rise.* Retrieved from: https://www.thenews.com.pk/print/197104-Number-of-people-living-with-depression-on-the-rise

Raichle, M. E., MacLeod, A. M., Snyder, A. Z., Powers, W. J., Gusnard, D. A., & Shulman, G. L. (2001). A default mode of brain function. *Proceedings of National Academy of Sciences of the United States of America, 98*(2), 676-682.

Schwartz, J. A. J., & Koenig, L. J. (1996). Response styles and negative affect among adolescents. *Cognitive Therapy &Research, 20*(1), 13-36.

Segal, B., & Singer, J. L. (1976). Daydreaming, drug and alcohol use in college students: A factor analytic study. *Addictive Behaviors, 1*(3), 227-35.

Singer, J. L., & Antrobus, J. S. (1970). *Manual for the Imaginal Processes Inventory.* Princeton, N. J.: Education Testing Service

Singer, J. L., & Rowe, R. (1962). An experimental study of some relationships between daydreaming and anxiety. *Journal of Consulting Psychology, 26*(5), 446.

Smallwood, J. (2013). Distinguishing how from why the mind wanders: A process-occurrence framework for self-generated mental activity. *Psychological Bulletin, 139*(3), 519-535.

Smallwood, J., & Andrews-Hanna, J. (2013). Not all minds that wander are lost: the importance of a balanced perspective on the mind-wandering state. *Frontiers in Psychology, 4*, 441.

Smallwood, J., & Schooler, J. W. (2006). The restless mind. *Psychological Bulletin, 132*(6), 946-958.

Smilek, D., Carriere J. S., & Cheyne, J. A. (2010). Out of mind, out of sight eye blinking as indicator and embodiment of mind wandering. *Psychological Science, 21*(6), 786-789.

Somer, E. (2002). Maladaptive daydreaming: A qualitative inquiry. *Journal of Contemporary Psychotherapy, 32*(2-3), 197- 212.

Somer, E., & Herscu, O. (2017). Childhood trauma, social anxiety, absorption and fantasy dependence: Two potential mediated pathways to maladaptive daydreaming. *Journal of Addictive Behaviors, Therapy & Rehabilitation, 6*, 3. doi:10.4172/2324-9005.1000170

Somer, E., Soffer-Dudek, N., & Ross, C. A. (2017). The comorbidity of daydreaming disorder maladaptive daydreaming. *Journal of Nervous and Mental Disease, 205*(7), 525-530.

Stawarczyk, D., Majerus, S., Van der Linden, M., & D'Argembeau, A. (2012). Using the daydreaming frequency scale to investigate the relationships between mind-wandering, psychological well-being, and present-moment awareness. *Frontiers in Psychology, 3*, 363-373.

Sunil, K., & Rooprai, K. Y. (2009). Role of emotional intelligence in managing stress and anxiety at workplace. *Proceedings of ASBBS, 16*(1), 163-172.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*(3), 247-259.

Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134*(2), 163-206.

Yousaf, A., Ghayas, S., & Akhtar, S. T. (2015). Daydreaming in relation with loneliness and perceived social support among university undergraduates. *Journal of the Indian Academy of Applied Psychology, 41*(2), 306-313.

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