ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 11, pp.75225-75228, November, 2018
DOI: https://doi.org/10.24941/ijcr.31409.11.2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

Correlation between anger and anxiety among secondary school students

***Jared Menecha, Dr. Alice Munene and Dr. Kennedy Ongaro**

School of Human and Social Sciences, Daystar University, Kenya

ARTICLE INFO

Article History:
Received 10th August, 2018
Received in revised form
27th September, 2018
Accepted 21st October, 2018
Published online 29th November, 2018

Key words:
Anxiety,
Trait anger,
State anger

Abbreviations:

MBCBT: Mindfulness Based Cognitive Behavioral Therapy
TA : Trait Anger
TAU : Therapy as Usual
ST : State Anger

ABSTRACT

Anger is a disruptive emotion that manifests in an individual and aggravates symptoms of other psychiatric conditions. Previous studies have shown that anger deepens symptoms of generalized anxiety disorder, a condition that impacts negatively on millions of people in the world. These studies had pointed out that there seems to be a link between anger and anxiety. This study sought to investigate the correlation between anger and anxiety among students in public secondary schools in Nakuru sub County, Kenya. A group 100 students (50 boys and 50 girls) challenged with extreme anger were assigned either to an experimental group which received a Mindfulness Based Cognitive Behavioral Therapy (MBCBT) treatment or to a control group which continued with Therapy as Usual. Data was collected at three levels: pretest, posttest and follow-up. Findings of this study revealed that at pretest, participants in experimental group scored high in state anger (33.74 ±7.842SD), trait anger (24.90 ± 4.537SD), and anxiety (26.60 ± 7.100SD). A Spearman's Rank Correlation run revealed a positive correlation, though low, between anxiety and state anger (r=0.116, p=0.423) and (r=0.137, p=0.343) for experimental and control groups respectively. Similarly, statistically significant correlation between trait anger and anxiety (r=0.337, p=0.017) and (r=0.254, p=0.035) for experimental and control group respectively were obtained.

Citation: Jared Menecha, Dr. Alice Munene and Dr. Kennedy Ongaro, 2018. "Correlation between anger and anxiety among secondary school students", *International Journal of Current Research*, 10, (11), 75225-75228

INTRODUCTION

Anger is a strong emotion that deepens anxiety thus aggravating symptoms of generalized anxiety disorder (GAD), a condition that disturbs multitudes of people in the world (Fleet *et al.,* 2000). Anger is a disruptive emotion (APA, 2000). Anxiety on the other hand has been linked with negative consequences on student's emotional and social development, psychological functioning and generally the physical well-being of an individual (Kumar-Das *et al.* 2014). Students with higher levels of anxiety experience a low academic achievement compared to students lower levels of anxiety (Sharma and Pandey, 2017). Students diagnosed with anger have also been reported to possess high levels of anxiety thus pointing to a likelihood of there being a close link between anger and anxiety (Deschênes *et al.,* 2012). Out of the different types of anxiety disorders, the prevalence of Generalised Anxiety Disorder (GAD) is quite high compared to other types of anxieties. Secondary school students diagnosed with GAD suffer from less work productivity (Tully *et al.,* 2013), impaired immune system (Vieira, 2013) and a high number of prescribed medications (Kertz *et al.,* 2011). This can be very detrimental among the student population. Prior research had reported an existence of high levels of hostility in individuals with Social Anxiety Disorder (SAD) and Panic Disorder relative to non-anxious controls (Moscovitch and colleagues, 2008). Individuals with Panic Disorder reported higher levels of aggressive anger while people suffering from Social Anxiety Disorder reported lower verbal aggression compared to non-anxious controls. Since individuals with high trait anger appear anxious, it is important to investigate whether there is a correlation between anger and anxiety especially among high school students.

MATERIALS AND METHODS

Two public secondary schools from Nakuru sub County, Kenya were purposively sampled to take part in the study. Forms three and four students aged between 16 and 19 years were screened for anger using STAXI-2 and a sample of 100 students (50 boys and 50 girls) of those who scored above 22 on trait anger were recruited to participate in the study. Participants (25 boys and 25 girls) from one school were randomly assigned to an experimental group while 25 boys and 25 girls from the second school were assigned to a control

Corresponding author:* **Jared Menecha,
School of Human and Social Sciences, Daystar University, Kenya.

group. At pretest, the participants were screened for the variables state anger and trait anger using STAXI-2. They were also screened for anxiety using the Beck's Anxiety Inventory (BAI). STAXI-2 is a 57 item self-report questionnaire which produces six scales and two subscales. It is a self-report measure of the experience of anger and expression of anger. Each item is rated on a four-point scale from 'almost never' to 'always'. It comprises 7 scales: Trait anger, measuring differences in the dispositional experience of anger; Anger expression, a general index of the frequency of the expression of anger with two subscales of trait anger; State anger, measuring the individual's present feeling of anger; Anger control, measuring the frequency of external expression of anger; Angry temperament, measuring the general tendency to experience the express anger, without provocation; Anger-in, measuring the frequency of suppression of angry feelings, and angry reaction, measuring the general dispositional experience of anger when provoked. The BAI is also a self-completion questionnaire designed to measure the levels of anxiety. It was developed by Aaron T. Beck and colleagues, is a 21-item multiple-choice self-report inventory that measures the severity of an anxiety in adults and adolescents. The items in the BAI describe the emotional, physiological and cognitive symptoms of anxiety but not depression thus BAI has the ability of discriminating anxiety from depression. A score of 0-7 indicates minimal level of anxiety; 8-15 indicates mild anxiety; 16-25 indicates moderate anxiety while 26-63 indicates severe anxiety. Participants in the experimental group were subjected to 10 sessions of mindfulness Based Cognitive Behavioral Therapy (MBCBT) while participants in the control group continued with Therapy As Usual (TAU) where they continued with the usual school guidance and counseling using other approaches apart from MBCBT. Data was collected at pretest, posttest (3months after intervention) and follow-up (6 months after intervention).

RESULTS

A baseline assessment of the key variables revealed the following results presented in Table 1. From table 1, statistically significant differences were obtained in state anger ($p = 0.025$) and one of its subscales: angry feelings ($p = 0.001$); trait anger and all of its subscales ($p = 0.000$). Participants from both schools scored high in anxiety (26.60 ±7.100SD) and (24.82 ±6.013SD) for experimental and control groups respectively. The findings pointed out that although two similar groups may have extreme anger, the severity of its symptoms may vary due to the physical environmental context, social environment and the individual differences.

Since schools are different in terms of their school culture, school rules and even administrative style, they impact at different measures on the students challenged with extreme anger. A One way ANOVA showed that there were differences in the mean scores between boys and girls for the variables state anger, trait anger, and anxiety at baseline for the experimental group (Table 2). The results show that boys scored lower in trait anger (24.32 ±4.905 SE 0.981); and anxiety (23.92 ±5.693 SE 1.139) as compared to girls who scored higher on trait anger (25.48 ±4.155 SE 0.831); anxiety (29.28 ±7.453 SE 1.491). However the boys scored higher in state anger (34.04 ±7.919 SE 1.584) as compared to girls who scored lower (33.44 ±7.917 SE 1.584). The higher score on state anger among boys explains why males get provoked easily by events in their environment. This triggers their state anger plunging them into breaking of things or screaming as compared to females. On the other hand, the findings indicate that females were more predisposed to experience anger more, were more anxious and most likely to be depressed as compared to males.

Table 1. Baseline mean scores for the key variables

Variable	Experimental Group		Control Group		95% CI		
	Mean	Std. D	Mean	Std. D	T	df	Sig.
State Anger	33.74	7.842	37.02	6.610	-2.316	49	.025
Angry Feeling	11.42	3.429	13.94	3.472	-3.594	49	.001
Verbal Expression of Anger	10.76	3.305	11.86	2.711	-2.006	49	.050
Physical Expression of Anger	11.36	3.827	11.22	2.526	0.211	49	.833
Trait Anger	24.90	4.537	29.80	4.041	-6.136	49	.000
Angry Temperament	12.02	2.583	15.10	2.323	-5.918	49	.000
Angry Reaction	12.88	2.797	14.80	2.680	-4.083	49	.000
Anxiety	26.60	7.100	24.82	6.013	1.143	49	.258

Table 2. Baseline mean scores for state anger, trait anger, anxiety, and depression for boys and girls

		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean		Min.	Max.
						Lower Bound	Upper Bound		
State anger	Male	25	34.04	7.919	1.584	30.77	37.31	22	52
	Female	25	33.44	7.917	1.583	30.17	36.71	23	51
	Total	50	33.74	7.842	1.109	31.51	35.97	22	52
Trait anger	Male	25	24.32	4.905	.981	22.30	26.34	13	34
	Female	25	25.48	4.155	.831	23.77	27.19	17	34
	Total	50	24.90	4.537	.642	23.61	26.19	13	34
Anxiety	Male	25	23.92	5.693	1.139	21.57	26.27	12	40
	Female	25	29.28	7.453	1.491	26.20	32.36	17	43
	Total	50	26.60	7.100	1.004	24.58	28.62	12	43

Table 3. Mean and Standard Deviation for the variables state anger, trait anger and Anxiety at pretest, posttest and follow-up in the experimental group

	Pretest		Posttest		Follow-up	
	Mean	Std. D	Mean	Std. D	Mean	Std. D
State Anger	33.74	7.842	18.12	4.054	17.98	3.639
Trait Anger	24.90	4.537	12.94	2.729	12.80	2.886
Anxiety	26.60	7.100	11.04	6.484	10.78	5.953

An analysis of the means done for the variables state anger, trait anger and anxiety in the three phases of the experimental group obtained relatively high mean scores in state anger (33.74 ±7.842SD) equivalent to a T-score of 80; trait anger (24.90 ± 4.537SD) equivalent to a T-score of 63 and anxiety (26.60 ± 7.100SD). These values decreased gradually across the three phases after the treatment. The results obtained in this study revealed that individuals with high scores on anger are normally anxious thus reducing symptoms of anger is likely to result to a decrease in symptoms of anxiety. Profile plots were done to demonstrate the impact of the intervention across the three phases for the experimental group. This was done for the variables state anger, trait anger, and anxiety. There was a steep slope between the pretest and posttest phases followed by a nearly flat region between the posttest and follow-up. The similar steep slope for state anger, trait anger and anxiety is a clear demonstration that as anger reduced anxiety reduced too suggesting that there is a correlation between anger and anxiety. The profile plots (Figure 1) showed a similar trend in the variables state anger, trait anger, and anxiety.

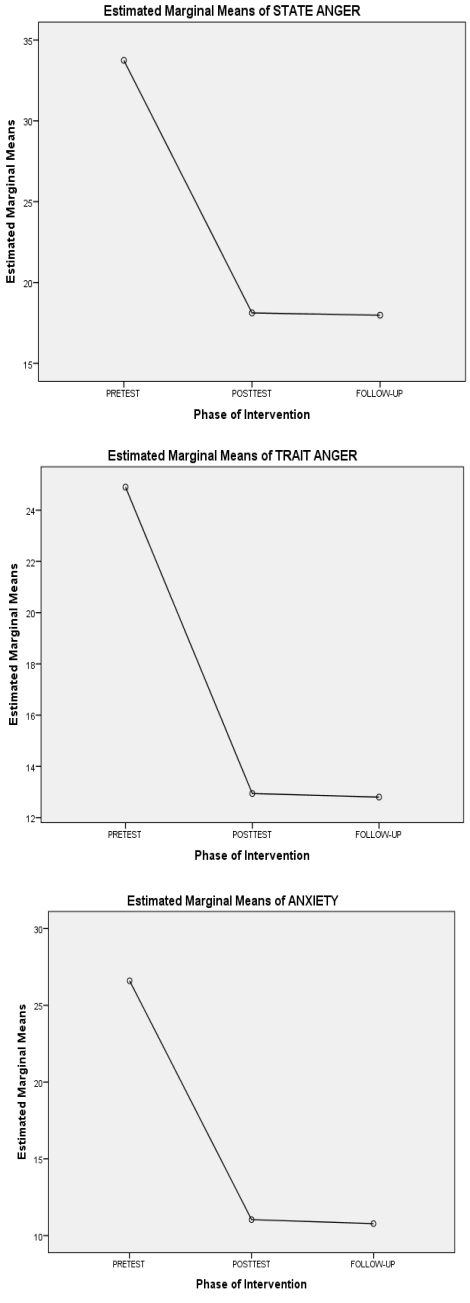

Figure 1. Profile Plots

As state anger and trait anger decreased, anxiety decreased also progressively. This finding seem to point to the fact that there is a correlation between anger and anxiety. Consequently, it can be deduced that treatment of anger also leads to the reduction of anxiety symptoms. In addition a Spearman's Rank correlation run to determine the relationship between anger and anxiety among participants in the experimental group revealed that there was a positive correlation, though low, between anxiety and state anger for the two groups (0.116 for experimental and 0.137 for the control group). However, these correlations were statistically insignificant as their p-values, 0.423 and 0.343 for the experimental and control groups respectively, were both greater than 5%. This insignificance seems to suggest that since state anger measures the intensity of angry feelings at a particular time, and the extent to which a person feels like expressing anger verbally or physically, it is not always that when an individual's anger is provoked he/she becomes anxious or vice versa. Between anxiety and trait anger, the test results indicated a moderate positive correlation in the two groups (0.337 for experimental and 0.254 for the control group) with the correlation in both the experimental and control groups being statistically significant (p=0.017 and p=0.035). This finding supported the fact that since trait anger is inborn, individuals high in trait anger frequently experience angry feelings thus a high possibility of becoming anxious.

DISCUSSION

This study aimed at investigating the correlation between anger and anxiety among students in public secondary schools. The results of this study revealed that at baseline participants from the experimental and control groups scored high in anxiety (26.60 ±7.100SD) and (24.82 ±6.013SD) respectively. These scores on BAI points to severe and moderate anxiety for the participants in experimental and control groups respectively. This is a serious cause of concern for all the stakeholders of education in Kenya. In this study, the prevalence of moderate and extreme anxiety of students diagnosed with extreme anger was 95%. This finding suggests that anger co-occurs with anxiety. Though previous studies had pointed out that approximately 25.1% of adolescents get diagnosed of an anxiety disorder which in turn negatively affects their daily functioning (National Institute of Mental Health, 2010), this study found out that students challenged by extreme anger suffer from high levels of anxiety which in turn affects their daily functioning negatively. Regarding anger, it is important to note that boys scored lower in trait anger (24.32 ±4.905 SE 0.981); and anxiety (23.92 ±5.693 SE 1.139) as compared to girls who scored higher on trait anger (25.48 ±4.155 SE 0.831) and anxiety (29.28 ±7.453 SE 1.491). However the boys scored higher in state anger (34.04 ±7.919 SE 1.584) as compared to girls who scored lower (33.44 ±7.917 SE 1.584).Notably in this study, high scores in anger correlated with high scores in anxiety. This evidently pointed out to an existence of a correlation between anger and anxiety. This was congruent with the findings of Deschênes *et al.* (2012)that pointed out that there was a high correlation between anger and anxiety. Despite the fact that Deschênes looked at the relationship between anger in general and anxiety, this study keenly pointed out to the correlation between state anger and anxiety as well trait anger and anxiety. The direction taken by this study was of interest to the researcher because he wanted to establish anger of the respondents as at the time of assessment and its link with anxiety. Interestingly, respondents in the two groups recorded significant scores in state anger

indicating that students are not always happy with their school environment thus get provoked easily. There is thus a need to investigate what makes students unhappy in schools and come up with adequate measures to enable them achieve their academic goals. Further this study is affirming that both state anger and trait banger have a correlation to anxiety. It is therefore important for schools to equip students with anger coping mechanisms because a reduction in anger is likely to result to a decrease in anxiety in the student thus a decrease of hostility, physical and verbal aggression. Though the correlation between state anger and anxiety was low, this study found out that there was a moderate positive correlation in the two groups (0.337 for experimental and 0.254 for the control group) with the correlation in both the experimental and control groups being statistically significant (p=0.017 and p=0.035). The findings are also in line with those of Erwin and colleagues (2003) who found out that there was a correlation between anger and some anxiety disorders. Similarly, just like the study by Lucia et.al (2017) who conducted a study that examined the relationship between anger and anxiety in youth in an outpatient anxiety treatment clinic, this study used the youth in high school and found out that there was a significant relationship between trait anger and anxiety severity. High levels of anxiety leads to a decline in academic performance. In this study, the administrators from the two schools reported that majority of the students faced with moderate to severe levels of anxiety were unsettled in school and posted poor academic grades. This is affirmed by a study by Tully, Coshand Baune (2013) who remarked that adolescents diagnosed with GAD suffer from less work productivity. Since anger co-occurs with anxiety, it interferes with the executive functioning thus hindering sound and timely decision making, memory deficits and deprives the student problem solving abilities.

Conclusion

This study reaffirmed that there is a correlation between anger and anxiety thus students challenged by extreme anger suffer from high levels of anxiety which in turn affects their academic performance. By treating anxiety, indirectly reduces its comorbidity with other mental health issues (Miller *et al.,* 2011). Reducing symptoms of anger thus automatically reduces symptoms of anxiety.

Acknowledgements: I wish to thank all the participants from the two sampled schools for participating fully in this research thus generating valuable data.

Funding statement: this research was carried out with the researchers funding.

REFERENCES

American Psychiatric Association, 2000. Diagnostic and statistical manual of mental disorders (41 Ed., text rev). Washington, DC: Author.

Deschênes, S. S., Dugas, M. J., Fracalanza, K. and Koerner, N. 2012. The role of anger in generalized anxiety disorder. *Cognitive behaviour therapy,* 41(3), 261-271.

Fleet, R., Lavoie, K. and Beitman, B. D. 2000. Is panic disorder associated with coronary artery disease? A critical review of the literature. *Journal of Psychosomatic Research,* 48(4), 347-356

Kertz, S. J., and Woodruff-Borden, J. 2011. The developmental psychopathology of worry. *Clinical child and family psychology review,* 14(2), 174-197.

Kumar-Das, S, Halder, U. K. and Mishr, B. 2014. A Study on Academic Anxiety and Academic Achievement on Secondary Level School Students Indian Streams Research Journal, Vol. 4): 1-6 ISSN 2230-7850 Available online at www.isrj.net.

Lucia M. W., Courtney B., Wolk, Emily M. B., Amanda J., and Rinad S. Beidas, 2017. The Relationship Between Anger and Anxiety Symptoms in Youth With Anxiety Disorders, *Journal of Child and Adolescent Counseling,* DOI: 10.1080/23727810.2017.1381930

Miller, L.D., Laye-Gindhu, A., Bennett, J. L., Liu, Y., Gold, S., March, J. S. and Waechtler, V. E. 2011. An effectiveness study of a culturally enriched school-based CBT anxiety prevention program. *Journal of Clinical Child and Adolescent Psychology,* 40(4), 618-629. doi:10.1080/ 15374416.2011.581619

Moscovitch, D. A., McCabe, R. E., Antony, M. M., Rocca, L., and Swinson, R. P. 2008. Anger experience and expression across the anxiety disorders. *Depression and anxiety,* 25(2), 107-113.

Sharma G. and Pandey D. 2017. Anxiety, Depression, and Stress in Relation to Academic Achievement among Higher Secondary School Students, *International Journal of Indian Psychology,* Volume 4, Issue 2, No. 87, ISSN:2348-5396 (e), ISSN:2349-3429 (p), DIP:18.01.051/20170402, ISBN:978-1-365-71287-6

Tully, P. J., Cosh, S. M. and Baune, B. T. 2013. A review of the effects of worry and generalized anxiety disorder upon cardiovascular health and coronary heart disease. Psychology, health and medicine, 18(6), 627-644.

Vieira, M. M., Ferreira, T. B., Pacheco, P. A., Barros, P. O., Almeida, C. R., Araújo-Lima, C. F. and Andrade, A. F. 2010. Enhanced TH17 phenotype in individuals with generalized anxiety disorder. *Journal of neuroimmunology,* 229(1), 212-218.

****