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Research Paper

A Correlational Study of Emotional Intelligence, Trait Anxiety and Emotional Eating in Young Adults

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ABSTRACT

Many people have adopted thoughtless behaviours as a result of the expanding hustle culture. An individual's approach to eating, emotions, and concern or worry about the past and future are all intertwined. The study tries to investigate the relationship between Emotional Intelligence, Trait Anxiety and Emotional Eating in young adults between the age 18-25 years. The purpose of the study was to find a correlation between EI, trait anxiety and emotional eating. The data was collected from 91 individuals (27 Males, 64 Females). The analysis showed a significant negative correlation (r=- 0.576^{**} , p < 0.001) between Emotional Intelligence and Trait Anxiety. Sub-domain of EI, Managing Relations was negatively correlated with Emotional Eating ($r = -0.264^*$, p < 0.005). A significant positive correlation $(r=0.321^{**}, p < 0.001)$ between Trait Anxiety and Emotional Eating was found. Analysis also showed that Trait anxiety has significant impact over EI. 12.74%-32.78% of the data had a few symptoms of emotional eating. The findings of the study have certain implications and can help in acting as a pre-requisite for eating disorders. Integration of more EI related activities in the form of interventions in schools and colleges that can indirectly improve Trait anxiety and Emotional eating can be inculcated. The hustle culture of the present generation requires multi-tasking & time management between all settings of life, where EI places a vital role, hence we should seek to improve EI.

Keywords: Emotional Intelligence, Trait Anxiety, Emotional Eating, Young Adults, Correlation

Research suggests that food may be consumed by emotional eaters in reaction to psychological discomfort signals rather than physical hunger indicators. Instead of satiating their body's natural hunger, these people utilise food as a coping method for emotional problems. (Oliver et al.,2000; Greeno & Wing,1994; Ganley,1989). Given its enormous influence on social interactions, personality traits, and even cognitive processes, emotion has emerged as a crucial area of study for psychologists, philosophers, developmental researchers, and others. Based on certain circumstances, emotions, which act as a behavioural regulator, might change from intense feelings to heightened reactions. (Uzzaman & Karim,2017).

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Mayer & Salovey define emotional intelligence as, "The ability to appraise, express, & regulate emotions (in self & others), and the ability to utilise the emotions." (Salovey & Mayer, 1990). The study is trying to understand how emotional intelligence is intertwined with trait anxiety and emotional eating. According to preliminary data, people with trait anxiety frequently consume more food when under stress. (Pollard et al., 1995). Spielberger et al, define trait anxiety "as a propensity to be anxious. It is a stable personality trait, determined by an inclination to perceive (or not) stimuli as threatening." (STAI, Spielberger et al., 1972). There is a clear link between binge eating disorder and trait anxiety, according to studies, and people with binge eating disorder have a high prevalence of anxiety disorders (37%) as well. (Grilo, White, & Masheb, 2009)

The phrase "emotional eating" (EE) refers to food consumption that is brought on by emotional events, most of which are negative (Arnow, Kenardy, & Agras, 1995; Michopoulos et al., 2015). Additionally, emotional eating has been identified in a number of demographics, especially college women, as a trigger for binge eating in both bulimia nervosa and binge eating disorder (BED). In these situations, eating in response to emotions might result in episodes of binge eating. (Ricca et al., 2012).

Ficher et al. (2010) used an emotion-word Stroop task to record event-related brain potentials as people with anxiety and depression performed it. According to the findings, anxious apprehension, anxious arousal, and depression were linked to self-reported emotion capacities, which is consistent with previous research.

Guil et al. (2019) looked at how trait emotional intelligence (trait EI) influences the link between self-esteem and state and trait anxiety. In terms of trait anxiety, higher levels of self-esteem were linked to lower Emotional Attentiveness (EA) and Emotional Clarity (EC) scores, implying a rise in trait anxiety. The poor link between self-esteem and EA emerges as a critical factor. The effect of self-esteem on EA, as well as the influence of the latter on EC and Mood Repair, has an indirect mediated effect that has the ability to reverse the influence of self-esteem on both forms of anxiety.

The study by Wong et al. (2014) looked into the link between emotional intelligence and the likelihood of developing an eating disorder in adolescents. Emotional perception, emotional expression, and emotional application were all positively connected with Eating Disorders Attitude Test-26 scores.

Foye et al. (2018) looked at a group of 32 people who had either a professional history working with eating disorders (n=25) or personal lived experience (n=5), with a number of them (n=13) being recognised as having dual responsibilities. The study's findings suggest that features of EI such as emotional regulation and a lack of emotional language are at the root of the onset and maintenance of these diseases. Treatment disengagement and problems were linked to other dimensions of emotional awareness and expression. Based on past research, this study concluded that emotional impairments are a transdiagnostic issue rather than a symptom of anorexia nervosa. Low or non-existent EI appears to be one essential piece in understanding the manifestation of eating disordered behaviour, according to the study.

Schnieder et al. (2010) investigated whether trait anxiety and trait anger are linked to emotional eating sensitivity, particularly in obese people. High trait anxiety was positively connected with food consumption for obese individuals, but not for their lean counterparts,

according to models predicting snack intake. Trait anxiety appears to be a risk factor for emotional eating in obese people, according to the findings.

In a normative sample of women in Israel, Zysberg and Leehu (2018) investigated a hypothesised model in which anxiety levels influence the association between emotional intelligence and emotional-eating tendencies. Data was collected from 208 usually healthy female participants who completed measures of trait emotional intelligence, anxiety, and predisposition toward emotional eating, as well as demographics, using a cross-sectional/ correlational methodology. The negative relationship between emotional intelligence and emotional eating was mediated by anxiety levels. In this approach, background variables played just a minor role. The findings reveal the mechanisms that underpin the link between emotional intelligence and emotional eating. If the findings are confirmed in future studies, they could be used to develop screening protocols, prevention strategies, and interventions for individuals and groups at risk of EE and eating disorders.

METHODOLOGY

The research design for this research is a single-group correlational study where the relation in between the three variables Emotional Intelligence, Trait Anxiety and Emotional Eating are all studied in the age group of 18-25 years of age. Data was collected random sampling in the months December & January (2021-2022) & April-July (2023).

Including Parts

Inclusion criteria will include the following_

- \succ Students between the ages of 18-25 years.
- Should be pursuing education

Exclusion criteria will include the following-

- > Those who working part-time or full time.
- Not Indian citizens
- > Married

Objectives

- To find the correlation between emotional intelligence and anxiety in young adults
- To find the correlation between emotional intelligence and emotion eating in young adults.
- To find the correlation between emotion eating and anxiety in young adults

Hypothesis

- There will be a negative correlation between emotional intelligence and trait anxiety in young adults.
- There will be a negative correlation between emotional intelligence and emotional eating in young adults.
- There will be a positive correlation between emotional eating and trait anxiety in young adults.

Participants

Sample- Young Adults ranging from the age of 18 to 25 years.

Females	Males	Total
64	27	91

Materials

1. Personal Data Sheet

The consent of participation, demographic details (*Age, Educational Qualification, Gender*) and email ids were collected in the personal data sheet for each participant.

2. Emotional Intelligence: Emotional Intelligence Scale (EIS)

Authors: Hyde, A., Pethe, S., & Dhar, U

Year of Publication: 2002

The researcher administered the Emotional Intelligence Scale that was developed by Hyde, Pethe, and Dhar (2002). It has a total of 34 items with a 5 pointer Likert scale. The Likert scale includes the following- 'strongly agree' (5 points), 'Agree' (4 points), Neutral (3 points), 'Disagree' (2 points) and lastly 'Strongly Disagree' (1 point). The statements are related to different sub-factors or domains of emotional intelligence like self-awareness (4 items), empathy (5 items), self-motivation (6 items), emotional stability (4 items), managing relations (4 items), integrity (3 items), self-development (2 items), value orientation (2 items), commitment (2 items), and altruistic behaviour (2 items). The test doesn't have reverse scoring items. Furthermore, the lowest that can be obtained on the test is 34 and on the other hand the highest it 170. The higher the score the more Emotionally Intelligent the participant is. The reliability done in statistical analysis was split-half reliability and a coefficient of 0.88 was obtained. The EIS is high on content validity.

3. State-Trait Anxiety Inventory (STAI-T)

Author: Spielberger, C.D

Year of Publication- 1983

The STAI test is a 40-item scale which measures both state anxiety and trait anxiety. The researcher used STAI-T which was only the Trait anxiety scale for the present research. It has a 4-point Likert Scale. The lowest an individual can get on the STAI-T test is 20 whereas the highest is 80. A higher score on this indicates a higher trait anxiety. Statistically the Cronbach's alpha for the test is 0.93.

4. Emotional Eater Questionnaire (EEQ)

Author: (Garaulet, et al., 2012)

Year of Publication: 2012

The Emotional Eater Questionnaire is a ten-item questionnaire which helps analyse if an individual's emotions are affecting their eating behaviour. This test has both a Spanish and English version. The test has a 4-point Likert Scale which includes the following options-Never (0 points), Sometimes (1 point), Generally (2 points) and lastly Always (3 points). Low scores on this test indicate that the participant has a healthy behaviour. The EEQ has a Cronbach's alpha of more than 0.7. In addition to that a convergent validity with Mindful Eating Questionnaire (MEQ) was conducted and Kappa's index showed that there was 70% agreement between EEQ and MEQ.

Data Collection

- 1. The sample population for the present study was all individuals between the age group of 18-25 years. The total sample collected was of 91 individuals (64 Females & 27 Males).
- 2. Data was collected via convenience and snowball method of data collection.
- 3. The consent of the participant was taken before they filled test tools.
- 4. A google form with a consent form, personal data sheet and the 3 tools (EIS, STAI-T & EEQ) was created and circulated via WhatsApp, Instagram & LinkedIn.

- 5. After the data was collected, statistical analysis of the responses was done to find if a correlation between the variables existed. Further, a regression analysis was also done between the variables to analyse the impact of each on the other. Statistical analysis was done using Version 24 of SPPS.
- 6. After the statistical analysis of the data, interpretation and discussions of the results were done.
- 7. Once the findings were interpreted, the researcher concluded if the hypothesis was accepted or rejected. Further, discussed the limitations, implications and the further studies that can be conducted on the research.

Variables

- **1. Emotional Intelligence:** "The ability to appraise, express, & regulate emotions (in self & others), and the ability to utilise the emotions." (Salovey & Mayer, 1990)
- **2. Trait Anxiety:** "Trait anxiety is defined as a propensity to be anxious. It is a stable personality trait, determined by an inclination to perceive (or not) stimuli as threatening." (STAI, Spielberger et al., 1972)
- **3. Emotional Eating:** The phrase "emotional eating" (EE) refers to food consumption that is brought on by emotional events, most of which are negative (Arnow, Kenardy, & Agras, 1995; Michopoulos et al., 2015)

	Trait Anxiety	Emotional Intelligence	Emotional Eating
N	91	91	91
Mean	43.5934	132.2088	10.1978
Median	43.0000	134.0000	9.0000
Mode	51.00	138.00 ^a	6.00
Std. Deviation	8.70502	16.37784	6.24005
Variance	75.777	268.234	38.938
Skewness	095	623	.998
Std. Error of Skewness	.253	.253	.253
Kurtosis	.198	1.049	.890
Std. Error of Kurtosis	.500	.500	.500

RESULTS & DISCUSSION

Table 1. shows the mean, median & mode for the complete data of 91. To check the normality of the normal curve, descriptive statistics of Mean, Median, Mode, SD, Skewness and Kurtosis was done. (Table 1.) After analysing the data, it was found out that the data was not normally distributed, therefore non-parametric testing was considered for further analysis.

Table No.: 2 Inferential Statistics- Correlations between Trait Anxiety, EmotionalIntelligence & Emotional Eating

			Trait	Emotional	Emotional
			Anxiety	Intelligence	Eating
Spearman's	Trait	Correlation Value	1.000	555**	.321**
rho	Anxiety	Significance (2-tailed)		.000	.002
		Ν	91	91	91
	Emotional	Correlation Value	555**	1.000	157

			Trait	Emotional	Emotional
			Anxiety	Intelligence	Eating
In	ntelligence	Significance (2-tailed)	.000		.137
		Ν	91	91	91
E	Emotional	Correlation Value	.321**	157	1.000
E	lating	Significance (2-tailed)	.002	.137	
		Ν	91	91	91

**. Correlation is significant at the 0.01 level (2-tailed).

The Spearman Rho's correlation revealed that the first hypothesis that "There will be a negative correlation between emotional intelligence and trait anxiety in young adults" was accepted. High scores on the EIS indicate low levels of trait anxiety. Table 2 shows the significant negative correlation (r= -0.555**, p < 0.001) between EI and Trait Anxiety. The results support the study done by Guil et. al (2019) where the finding suggest that Emotional Attention and Emotional Clarity are indirectly connected to increasing trait anxiety.

Table No.: 3- Regression analysis of Trait Anxiety impacting Emotional Intelligence

				Std.					
			Adjusted	Error of					
		R	R	the	Change				
Model	R	Square	Square	Estimate	Statistics				
					R Square	F			Sig. F
					Change	Change	df1	df2	Change
1	.550 ^a	.302	.294	13.75644	.302	38.569	1	89	.000

a. Predictors: (Constant), Trait_Anxiety

b. Dependent Variable: Emotional_Intelligence

Further regression analysis was done (Table No. 3) and R square value was found to be 0.302, which indicates that Trait Anxiety impacts Emotional Intelligence by 30.2%.

The second hypothesis "There will be a negative correlation between emotional intelligence and emotional eating in young adults" was rejected. High scores on the EIS would indicate low scores in Emotional Eating. Table 2 shows a negative correlation (r = -0.157) which is not significant. The results do not align with a few studies that have been published. There is a high possibility that the hypothesis got rejected as the EIS measured had 10 factors in it, out of which around 8 factors show no significant correlation between the two variables, reducing the significance of the variables into consideration. However, 4 items in the EEQ (Garaulet, M, 2012) indicate that emotions and an individual's food intake is connected. Table No. 4 shows the number of individuals & percentage of those individuals who have chosen the 'Always' & 'Sometimes' options in the questionnaire.

Table No.: 4.- Showing data in terms of numbers & percentage of individuals affected by emotional eating due emotional dysregulation.

Items	No. out of Total	Percentage	of
	Sample of 91	Total Sample	
Do you eat when you are stressed, angry or bored?	35	31.85%	
Do you eat more of your favourite food and with	36	32.76%	
less control when you are alone?			

Items	No. out of Total Sample of 91	Percentage Total Sample	of
Do you eat more of your favourite food and with	18	16.38%	
less control when you are alone?			
How often do you feel that food controls you,	14	12.74 %	
rather than you controlling food?			

The last hypothesis "A positive correlation between emotional eating and trait anxiety in young adults" was accepted. High scores on trait anxiety indicate high scores on Emotional Eating. Table 2 shows a positive significant correlation ($r=0.321^{**}$, p < 0.001) between Emotional Eating and Trait anxiety. These results align with previous studies, for instance, Schnieder et. al (2010) found that higher trait anxiety levels were positively correlated to food intake especially for obese individuals. Further regression analysis was done (Table No.5) and the R square value was found to be 0.152 which means that Trait anxiety impacts Emotional eating by 1.52%.

Table No.: 5 Regression analysis of Trait Anxiety impacting Emotional Eating

				Std.					
				Error of					
		R	Adjusted	the	Change				
Model	R	Square	R Square	Estimate	Statistics				
					R Square	F			Sig. F
					Change	Change	df1	df2	Change
1	.390ª	.152	.143	5.77774	.152	15.979	1	89	.000

a. Predictors: (Constant), Trait_Anxiety

b. Dependent Variable: Emotional_Eating

Table No.: 6 Spearman's rho correlations between Trait Anxiety & Domains of Emotional Intelligence which were significant

	Empathy	Self- Motivation	Emotional Stability	Managing Relations	Integrity	Self- Development	Commitment
Trait	-	-0.481**	-0.481**	-0.589**	-	-0.348**	-0.33**
Anxiet v	0.321**				0.322**		

** Correlation is significant at the 0.01 level (2-tailed)

Table No.: 7 Spearman's rho correlations between Emotional Eating & Domains of Emotional

 Intelligence which were significant

	Managing Relations	Altruistic Behaviour
Emotional Eating	-0.264*	-0.219*
	1 0 0 5 1 1 (0 11 1)	

*Correlation is significant at the 0.05 level (2-tailed)

Table No. 6 indicates that trait anxiety is connected emotional intelligence on various domains, that includes intrinsic emotions & extrinsic environment that affects an individual. We can see that Managing Relations in Table No. 6 & Table No. 7 has significant negative correlation with Emotional Intelligence which shows a clear connection between the three variables considered in the study.

CONCLUSION

Emotional eating is frequently viewed as a maladaptive pattern of behaviour resulting from poor control over emotions, primarily negative ones. (Zysberg, 2018). As a result, a number of studies have looked into the protective and risk variables linked to emotional events and how people cope with them (Macht, 2008).

The study conducted tries to prove that trait anxiety & emotional intelligence plays a significant role in emotional eating which is drastically becoming a concern in the current generation. The study tries to act as an implication study for many researches. For instance, Zysberg (2018) mentions found out that the inverse relationship between emotional intelligence and emotional eating was mediated by anxiety levels. Another study, a three-level random-effects meta-analysis model applied to the analysis of 20 papers showed a small impact size and an overall negative correlation (r = -0.17, 95% CI: -0.25, -0.08; p <.001) between eating disorders and emotional intelligence. (Zhang et al., 2021).

In this study, new findings related to which particular aspects related to emotions affects an individuals food intake was found. In addition to that, the study also helps us understand the impact of trait anxiety & emotional intelligence on emotional eating in Indian population as well.

Limitations

- Restricted range of population. Those excluded from the population could also be impacted by the variables.
- Online data collection
- Sample collected was small
- Factors like distractions & noise were not controlled

Implications

- This study can be used to integrate more EI related activities in the form of interventions in schools and colleges to improve EI.
- As EI and Trait Anxiety are connected to each other. Activity based techniques such as a five minute self-awareness session can be inculcated in young population to help them analyse their stress.
- Emotional eating is indirectly connected to EI in some or the way. This study is useful in analysing eating disorders, and can surface as a pre-requisite before diagnosis.
- This study is also useful in identifying and can act as pre-requisite for obesity.

Further Directions

- 1. Intervention based Emotional Intelligence programs in schools as well colleges.
- 2. Wider sample, diverse background.
- 3. Emotional Eating and Emotional Intelligence research in adolescence
- 4. Further comparative studies on Emotional Intelligence and Emotional eating.
- 5. Emotional eating patterns in married individuals those above the age of 30 years.

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Conflict of Interest

The author(s) declared no conflict of interest.

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