



A Study on Cognitive Emotional Regulation and Burnout among Cognitive Science Students

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Abstract

The learning outcomes of students are greatly impacted by emotions. According to empirical research, negative emotions have a negative correlation with learning outcomes. Over the course of a student's academic career, negative feelings are more likely to occur while learning. Due to these negative emotional, physical, and mental reactions to prolonged studies, students can experience burnout which causes them to become exhausted, frustrated, unmotivated, and less competent in college. Cognitive emotion regulation is a conscious and cognitive approach of managing the intake of emotionally stimulating material, which can affect a student's attention and impact academic performance. A total sample of 50 students, pursuing Masters in Cognitive Science in the age 20-23 was collected. Standardized scales were used to measure cognitive emotion regulation and burnout. The results found that there is a significant positive correlation between catastrophizing and total burnout. However, no significant relation between burnout dimensions and cognitive emotion regulation strategies was found. A therapist may change some maladaptive cognitive emotion strategies in students who exhibit cognitive coping profiles and may provide more adaptive strategies like a positive appraisal. The implementation of educational seminars based on dysfunctional coping mechanisms is necessary.

Keywords: Cognitive Regulation, Emotional Regulation, Burnout, Cognitive Science, Students

Introduction

The study of the mind and brain, known as cognitive science, focuses on how the mind represents and manipulates information as well as mental representations and processes are realized in the brain. The field's nature is highly transdisciplinary, combining concepts, ideas, and methodologies from various disciplines, including psychology, computer science, linguistics, philosophy, and neuroscience. Research in cognitive science focuses on how our minds organize and represent knowledge. Limited research is available in the field of cognitive science because it is a young and developing discipline. Students of cognitive science are under a lot of pressure as they have to study a lot of different subjects such as neuroscience, linguistics, psychology, education, mathematics, programming skills, computer science and artificial intelligence as it is a highly multidisciplinary field, and due to the overwhelming study demands and prolonged levels of intense stress cognitive science students are susceptible to burnout symptoms as most students do not have their studies well planned or even have time management skills which make these students prone to exhaustion and burnout.

Students who regulate their emotions are more successful at learning their tasks (Boekaert, 2002). Fried (2011) asserts that the modification of emotions facilitates functioning in academic factors. A general definition of emotion regulation includes all extrinsic and intrinsic methods of observing, assessing, and modifying emotional reactions. Cognitive emotion regulation can be viewed as a subset of this concept (Gross, 2001). People who are burnt out frequently lament their cognitive shortcomings. These people frequently report having trouble learning and solving problems, having trouble focusing on daily tasks and losing important information like names or appointments (Maslach, Schaufeli & Leiter, 2001; Schaufeli, 1998; Broadbent et al., 1982).

Cognitive Emotional Regulation

According to Garnefski et al., (2009), cognitive emotion regulation (CER) is defined as the "conscious, mental strategies individuals use to cope with the intake of emotionally arousing information." CER consists of four maladaptive strategies (rumination, self-blame, blaming of others, catastrophizing) and five adaptive strategies (positive refocusing, refocusing on planning, acceptance, putting into perspective, positive reappraisal).

The maladaptive strategies includes self-blame (blaming oneself for the negative event), rumination (repetitive thinking about thoughts & feelings about the event), catastrophizing (focusing on how terrible the event was), other blame (blaming others for what happened). The adaptive strategies include, acceptance (resigning to what happened), positive refocusing (directing thoughts to pleasant matters), refocus on planning (thinking about actions that can help deal with the negative event), putting into perspective (diminishing the meaning of the event), positive reappraisal (finding a positive side of the negative event). The maladaptive strategies may lead to depression, anxiety or risky behavior and an array of other psychological and emotional problems (Garnefski, Kraaij, Spinhoven, 2001; Garnefski et al., 2009); whereas the adaptive strategies are linked to better mental health & well-being (Garnefski,

Kraaij, Spinhoven, 2001; Extremera & Rey, 2014). A meta-analysis done by Aldao et al. (2010) revealed that maladaptive strategies are more strongly associated with psychopathology than adaptive strategies.

The likelihood of negative effects on their academic performance and a potential rise in stress is highest among university students who have the greatest difficulties with emotional cognitive regulation (Gonzalez-Sanguino et al., 2020). Abdi, Babapoor, & Fathi (2011) in a study of university students, discovered a significant relationship between cognitive emotion regulation styles and psychological well-being. Psychological well-being was significantly predicted by maladaptive cognitive emotion regulation. It is also found that males utilize self-blame more than females, but they also have better psychological health than females.

Another study on university students was done by Hossein & Zahra (2012) where they discovered a negative association between depression and positive refocusing as well as planning and positive reappraisal. Furthermore, there was a positive relationship found between depression, anxiety, stress, and maladaptive cognitive emotional regulation strategies.

Cognitive processes such as attention and cognitive strategies are affected by the type of emotions. Positive emotions help students increase their attention on learning task and help solve problems creatively while negative emotions divert students from learning their tasks and shift their focus on irrelevant tasks being performed (Perkun et al., 2007).

Malik & Perveen (2021) conducted a study on university students where they found that maladaptive cognitive emotional regulation is seen as contributory variables because, when combined with low levels of mindfulness they increase anxiety. Additionally, there was evidence that less adaptive cognitive emotional regulation usage enhances the link between anxiety and mindfulness, which results in anxiety symptoms.

Burnout

ICD-11 (2019) defined burnout as “a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions, feelings of energy depletion or exhaustion, increased mental distance from one’s job or feelings of negativism or cynicism related to one’s job and reduced professional efficacy”.

According to Maslach & Leiter (2016) burnout is a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job. The key dimensions include overwhelming exhaustion, feelings of cynicism and detachment from the job and a sense of ineffectiveness and lack of accomplishment.

“To fail, wear out or become exhausted by making excessive demands on energy, strength or resources”, is burnout as per Freudenberg (1974).

Burnout is linked to poor quality of life as it is associated with a variety of mental and physical health problems including headaches, muscular pain & depression (Chang, 2014).

Bullock (2017) found higher levels of burnout in Graduate level healthcare students when compared to their peers and the general population. They also discovered that the high frequency of burnout among graduate healthcare students had an impact on their mental health, empathy, and professional behavior.

A study on 120 university students done by Rahmati (2015), found a negative relationship between self-efficacy and academic burnout. Schaufeli (2022) in a cross-national study among university students found a negative correlation between burnout and engagement subscales.

Galán et al. (2011) found among medical students that the risk of burnout prevalence doubled from the third to the sixth year of training, and gender was not significantly related to any of the burnout subscales. Karimi (2014) discovered that students with low academic burnout have higher levels of social support than students with high burnout.

Nikodijevi (2012) performed a study on a sample of 376 management and IT students in Serbia and discovered that 46.3% of the overall sample of students were in danger of burnout, and 20.7% were at high risk of burnout. No significant relationship was found between gender and the likelihood of burnout. Students with low-grade point averages outnumbered those with high-grade point averages in both the risk of burnout and high risk of burnout categories.

Purpose

The purpose is to study cognitive emotional regulation & burnout among cognitive science students.

Hypothesis

There will be a significant relationship between cognitive emotion regulation and burnout.

Method

Sample

A total sample of 50 students in the age 20-23 pursuing Masters in Cognitive Science from Chandigarh was collected.

Measures

Oldenburg Burnout Inventory (OLBI): as developed by Demerouti et al., (2003). The scale had 16 items, measuring two dimensions, exhaustion & disengagement. Items were scored on a rating scale ranging from 1(Strongly agree) to 4 (Strongly disagree)

Cognitive Emotion Regulation Questionnaire (short): as developed by Garnefski & Kraaij (2001), consists of 18 items which measure nine sub-dimensions including self-blame, other blame, rumination, catastrophizing, positive refocusing, planning, positive reappraisal, putting into perspective & acceptance. The scale is rated on a five-point scale ranging from 'never or almost never' (1) to 'always or almost always' (5).

Procedures

The participants were informed about the purpose of the research & the questionnaires were filled out through Google forms. Each participant was thanked for their cooperation & their kind help. Standardized psychological tests were administered to the participants.

Analysis of Data

Results

Table 1: N, Mean and Standard Deviation

	Disengagement	Exhaustion	Burnout Total	Self-Blame	Acceptance	Rumination	Positive Refocusing	Refocus on planning	Positive Reappraisal	Putting into perspective	Catastrophizing	Other Blame
N	50	50	50	50	50	50	50	50	50	50		50
Mean	18.7	19.6	38.3	5.68	6.96	6.46	5.72	7.22	7.5	6.2	5.12	4.02
Standard deviation	2.85	2.59	4.73	1.93	2.43	1.96	1.97	2.01	2.04	1.98	2.29	1.61

Table 2: Correlation of all variables

	Disengagement	Exhaustion	Burnout Total	Self-Blame	Acceptance	Rumination	Positive Refocusing	Refocus on planning	Positive Reappraisal	Putting into perspective	Catastrophizing	Other Blame
Disengagement	—											
Exhaustion	0.518 ***	—										
Burnout Total	0.884 ***	0.858 ***	—									
Self Blame	0.139	0.16	0.171	—								
Acceptance	-0.082	0.011	-0.043	0.362 **	—							
Rumination	-0.194	-0.144	-0.195	0.287 *	0.539 ***	—						
Positive Refocusing	-0.046	0.048	-0.002	0.11	0.066	0.145	—					
Refocus on planning	-0.047	-0.094	-0.08	0.349 *	0.323 *	0.511 ***	0.428 **	—				
Positive Reappraisal	-0.054	0.008	-0.028	0.346 *	0.312 *	0.512 ***	0.162	0.528 ***	—			

Putting into perspective	-0.158	0.122	-0.028	0.177	0.146	0.249	0.208	0.388	0.535	—		
Catastrophizing	-0.097	0.152	0.519*	0.101	0.316*	0.183	0.27	0.273	0.122	0.319*	—	
Other Blame	-0.212	0.178	-0.03	-0.169	0.068	0.036	0.259	0.049	-0.14	0.3*	0.47***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Discussion of Results

The result found a significant positive correlation between Catastrophizing and total burnout ($r=0.519$, $p<.05$). However, the results found no significant relation between burnout dimensions and cognitive emotion regulation strategies. According to Garnefski et al. (2002); Martin & Dahlen (2005); Garenfeski & Kraaij (2007); Min et al (2013) anxiety and depression is related to catastrophizing.

In a recent study done by Ursu & Mairean (2022) on 266 young adults to assess trait resilience, cognitive emotion regulation strategies and perceived stress. The results found the resilience was negatively correlated with perceived stress, self-blame, catastrophizing & rumination but positively correlated with positive reappraisal, focus on planning, positive refocus and putting into perspective. Stress was positively correlated with self-blame & catastrophizing while negatively correlated with positive refocus and positive reappraisal.

The previous research supports that people can easily tolerate and deal with negative life events and have better psychological functioning by using adaptive coping emotion regulation strategies and non-adaptive cognitive emotion regulation can promote the emergence of psychopathology.

Engelmann & Bannert (2019) through an experimental study on university students found that training in emotion management enhanced emotional control (more cognitive reappraisal, less suppression), and reduced frustration and anxiety. The findings show that college students have substantial problems controlling their emotions, and thus further studies should be done in this area to devise intervention plans.

Conclusion

The main aim of the study was to investigate cognitive emotion regulation & burnout among cognitive science students. A total sample of 50 students, pursuing Masters in Cognitive Science in the age 20-23 was collected. Standardized scales were used to measure cognitive emotion regulation and burnout. The results found that there is a significant positive correlation between catastrophizing and total burnout. However, no significant relation between burnout dimensions and cognitive emotion regulation strategies was found. Students can improve Burnout by developing time management skills, establishing good study habits, engaging in study areas that they take interest in and being more aware of when they start to feel tired and changing their schedules. Further one should establish boundaries between their studies and personal life as well as seek proper support, be it from their teacher, peers, guidance counsellor or therapist. Taking proper breaks and maintaining a good sleep schedule helps in decreasing burnout as well as catastrophic thoughts. It makes one less irritable and more aware of our thoughts and actions, being sleep-deprived causes one to perceive a threat which isn't there and make a mountain out of a molehill.

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