



Future Thinking Pattern of University Students During COVID 19: Do Emotion Regulation and Perceived Interpersonal Support Relate with It?

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Abstract

Objective: Background: The novel coronavirus has made havoc on every single sector of life, and the educational sector has faced a momentous chunk of its effect. It is difficult to assume anything about the future as the whole scenario is an epitome of uncertainty.

Aim: The present study aimed to investigate the relationship of emotion regulation and perceived interpersonal/social support with future thinking propensity of undergraduate university students. Additionally, the study explored whether they serve as predictors of future thinking during these unconventional times of a pandemic.

Design: A total of 319 university students living in different districts of Bangladesh took part in an online survey and completed measures of future thinking, interpersonal support, and emotion regulation strategies.

Results: Results stated that cognitive reappraisal was negatively and expressive suppression was positively correlated with pessimistic repetitive future thinking and both techniques were significant predictors of it. In the case of perceived interpersonal support, findings demonstrated that tangible support had a negative association with pessimistic future thinking and also played a significant role in predicting it. The results further showed that the regression model can explain 14.5% variances in pessimistic repetitive future thinking. However, the remaining two types of future thinking (repetitive thinking about future goals and positive indulging about the future) did not express any significant association with these two variables.

Conclusion: The outcomes of the present research provided insights about the importance of using the cognitive reappraisal strategy and having tangible interpersonal support to control the emergence of negative future thinking during crises.

Keywords

COVID-19; Impact on university student's education; Emotion regulation strategies; Interpersonal social support; Future thinking during pandemic.

Introduction

The novel coronavirus first emerged in December 2019 in China, and within a few months, it has been designated as a worldwide pandemic [1]. Bangladesh went on partial lockdown on March 18 while from March 26, it was put on full lockdown to curb the rate of infection, rate of death of COVID-19 [2]. To mitigate its disruptive effect, all educational institutes shut down and the students of all over the country are living in the cloud of uncertainty and a lot of unknowing answers to questions. The circumstance they are living through is unpleasant, frustrating, and also stressful. All the while, they are confronting these sudden and experiencing uncertainties about their future.

Future-oriented thinking is the extent to which an individual thinks about the future, anticipates future consequences, and plans before doing an action [3]. From an adaptive viewpoint, future thinking enables decision-making processes by helping us to evaluate, adjust, and optimize the choices, improving our capacity to deal with the problems that we experience in our daily life as well as the strategies of our actions [4]. Future thinking has been found to be closely related to emotion regulation as anticipating ourselves into the future includes the development of positive events that we try to achieve or negative circumstances that we would rather avoid [5].

Emotion regulation can be characterized as the processes that are included in the formation of emotions of an individual's experiences as well as when and how these emotions are experienced and expressed [6]. The two common types of internal strategies of emotion regulation are cognitive reappraisal and expressive suppression. Cognitive reappraisal is cognitive in nature and involved in reframing potentially stressful situations to relieve their adverse emotional effect [7]. Whereas, expressive suppression means to inhibit the behavioral expressions while still experiencing the actual emotion [8]. It is not considered to be a fruitful regulating strategy of emotion as it only affects the behavioural reactions of emotion and does little to shorten the genuine experience.

Interpersonal support is often acknowledged as one of the crucial components of healthy relationships and strong psychological wellbeing. An individual's perception of elevated social and interpersonal support lessens the occurrence of psychological disorders, increases coping skills and physical fitness during the times of stress [9, 10]. Three common types of perceived interpersonal support are appraisal support, belonging support, and tangible support. Appraisal support refers to advice or guidance given by the peers, parents, or similar supportive bodies for effective social interactions which helps people in making decisions or in changing one's lifestyle [11]. Whereas, belonging interpersonal supports defines perceived empathy, acceptance, companionship, and concern regarding the wellbeing of each and such support helps a lot during times of stress or when someone experiences loneliness [12]. Perception of material or financial support, assistance, and help in need is marked as tangible or instrumental interpersonal support. These supports actually provide care for physical needs and are always ready to assist others when it is required [13].

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The present days

Education is the fundamental establishment for success and opportunity. Also, university students are considered an important source of the nation's overall growth and future development. But the prolonged COVID-19 lockdown for educational institutes not only puts a pause on university students' academic activities but also creates a state of uncertainty regarding their future academic plans. As a result, they become anxious and despairing and tend to think that negative future outcomes would certainly happen. It is very important to halt this negative thinking propensity, so they don't get stuck in a cycle of never-ending stress. The ability to regulate emotion has been found to protect individuals from psychological damage who have been exposed to disaster or experienced stressful situations [14]. Also, social support has been found to play an important role to mitigate the impact of stress on mental health following a disaster [15]. Many researches have been conducted during this COVID-19 situation and most of them addressed different negative impacts on mental health and psychological sufferings of students during the pandemic [16,17]. But little is known about the future-oriented repetitive thinking pattern and its control processes during this crisis period among the university students. Therefore, the present researchers were intrigued to investigate the relation of emotion regulation and perceived interpersonal support with future thinking tendencies. They also wanted to discover whether these two measures act as predictors of future-oriented thinking among university students.

Methodology

Participants and setting

The present study was designed as a cross-sectional survey covering undergraduate university students (n=319) in Bangladesh. Among them, 146 were males (45.8%) and 173 were females (54.2%) having an age range of 18-25 years.

Both the cluster random sampling technique and snowball sampling techniques were used to get online responses for the questionnaires prepared through google forms.

The link for the survey was distributed through social media, emails after taking appropriate consents from authority from June 26 to July 25, 2020.

Rating instruments

The google form consisted of a demographic section (age, gender, education, residence etc.), the Emotion Regulation Questionnaire (ERQ), the Interpersonal Support Evaluation List (ISEL- short form), and the Future-Oriented Repetitive Thought (FORT) scale.

Emotion Regulation Questionnaire (ERQ)

The ERQ is a self-report 10 items questionnaire designed to measure an individual's regulation strategy of emotion. Out of the ten items, six of them measure the cognitive reappraisal strategy (items: 1, 3, 5, 7, 8, 10) and the remaining four measure the expressive suppression strategy (item: 2, 4, 6, 9). It is seven points Likert scale ranging from strongly disagree to strongly agree. The coefficient alpha of the original scale for cognitive reappraisal strategy is .79 and for expressive suppression is .73. The test-retest reliability was .69 for both of the sub-scales. The present study population's Cronbach's alpha was .68 and .76 for the cognitive reappraisal strategy and the expressive suppression strategy of emotion regulation respectively.

Interpersonal Support Evaluation List (ISEL- short form)

The ISEL (short form) is another self-report 12 items questionnaire outlining perceived social support of an individual. It is also a Likert scale form and the response options are: 1, definitely false; 2, false; 3, true; and 4, definitely true. Among the 12 items, few are reversed scored (items: 1, 2, 7, 8, 11, 12). Items 2, 4, 6, and 11 measure appraisal support, items 1, 5, 7, and 9 measure belonging support, and items 3, 8, 10, and 12 measure tangible support [18]. Cronbach's alpha of .70 was found for internal consistency within English and Spanish speaking participants and good convergent validity was found for overall social support strategies [19]. Cronbach's alpha was .54 for the present study population on their ISEL short form questionnaire.

Future-oriented Repetitive Thought (FORT) scale

The FORT scale helps to measure how frequently an individual thinks about their future. It consists of 16 items ranging from '0' (almost never) to '3' (almost always) in the Likert scale form. A Cronbach's alpha of .75 was found for internal consistency measurement. The scale yielded good convergent and discriminant validity with subscales. Items 1, 2, 3, 5, 8, 12, 13, 14 measure pessimistic repetitive future thinking; items 4, 7, 11, 16 measure repetitive thinking about future goals, and items 6, 9, 10, 15 measure positive indulging about the future [20]. A Cronbach's alpha of .75 was also found for the present study's population.

Statistical Analysis

Data were analyzed by using SPSS V-23 (IBM SPSS, statistics, New York, USA). Descriptive statistics, The Pearson product-moment correlation, and multiple regression analysis was computed.

Ethical consideration

For assuring the utmost privacy any identifiable information from the respondents was not collected (i.e. name, address, contact number, email address, etc.) thus a human oversight committee's approval was not needed and taken. Researchers provided an informed consent section at the beginning of the online survey describing the intent, purpose, and data usage policy of the study. The present study's procedure was compiled based on the declaration of Helsinki regarding research on human participants.

Results

To meet the objectives of the present research-descriptive statistics, correlation analysis and multiple regression were used.

Table 1 states the mean scores, standard deviation and 95% confidence interval of the measures among the study population.

A total of 332 data were collected and 13 data were excluded due to incomplete submission, vague answers to the demographic questionnaire, and missing values.

Since in this study, the total variance extracted is 13% and it is less than the recommended threshold of 50% for Harman's single factor test, it could be inferred that there's no presence of common method bias or variances (Table 1).

To assess the correlations between variables The Spearman rank-order correlation coefficient was computed.

Table 1: Descriptive statistics of scales (M: Mean; SD: Standard Deviation; CI: Confidence Interval).

Variable's name	N	M	SD	CI (95%)
Cognitive Reappraisal (CR)	319	31.36	6.09	(30.69, 32.03)
Expressive Suppression (ES)	319	18.43	5.95	(17.77, 19.08)
Appraisal Interpersonal Support (AS)	319	9.39	2	(9.17, 9.61)
Belonging Interpersonal Support (BS)	319	9.78	2.07	(9.55, 10.01)
Tangible Interpersonal Support (TS)	319	10.19	2.07	(9.96, 10.42)
Pessimistic Future Thinking (PT)	319	12.72	5.79	(12.08, 13.36)
Repetitive Thinking About Future Goal (FG)	319	7.87	2.51	(7.59, 8.14)
Positive Indulging About the Future (PI)	319	7.3	2.52	(7.03, 7.58)

Table 2 reveals that Pessimistic Repetitive Future Thinking (PT) was significantly negatively correlated ($r=-.168$; $p<.01$) with Cognitive Reappraisal (CR) and positively correlated ($r=.303$; $p<.01$) with Expressive Suppression (ES). That means, higher cognitive reappraisal decreases whereas suppression of expression increases pessimistic/negative future thinking tendencies. Another significant negative correlation ($r=-.209$; $p<.01$) was also found between Tangible Interpersonal Support (TS) and Pessimistic Repetitive Future Thinking (PT) which indicates that higher materialistic and financial support lessens a pessimistic view of the future. Additionally, positive

correlation ($r=.112$; $p<.05$) between Tangible Interpersonal Support (TS) and repetitive thinking about Future Goal (FG) indicates that good tangible interpersonal support can increase future goal-related thinking. However, no other significant correlation was found among other variables.

To measure whether emotion regulation and interpersonal support can predict future-oriented repetitive thinking, multiple-regression analysis was used (Table 2).

Table 2: Pearson product-moment correlation coefficient among the variables (N=319), **: $p<.01$ (2-tailed), *: $p<.05$ level (2-tailed) Note. CR: Cognitive Reappraisal, ES: Expressive Suppression, AS: Appraisal Interpersonal Support, BS: Belonging Interpersonal Support, TS: Tangible Interpersonal Support, PT: Pessimistic Repetitive Future Thinking Subscale, FG: Repetitive Thinking About Future Goals Subscale, PI: Positive Indulging About the Future Subscale.

Variable's name	1	2	3	4	5	6	7	8
1. CR								
2. ES	0.025							
3. AS	0.078	-0.081						
4. BS	0.077	-0.082	.308**					
5. TS	0.079	-.238**	.291**	.289**				
6. PT	-.168**	.303**	0.06	-0.066	-.209**			
7. FG	0.039	-0.012	0.047	0.002	.112*	-0.024		
8. PI	-0.004	-0.101	0.094	0.005	0.051	.148**	.184**	

From the standardized β values of Table 3, cognitive reappraisal ($\beta=-0.171$), expressive suppression ($\beta=0.278$), appraisal interpersonal support ($\beta=0.153$), and tangible interpersonal support ($\beta=-0.165$) were significant predictors of pessimistic future thinking of the students. Moreover, Adjusted R² specified that this model can explain 14.5% variance in pessimistic repetitive future thinking (Adjusted R²=.145, F_{5,313}=11.78, $p=.01$). However, regression analysis of the remaining two types of future thinking (Repetitive thinking about

future goals subscale and positive indulging about the future) did not reveal any significant association. Additionally, part correlation coefficients of the above table reveal that the individual contribution of expressive suppression was higher (7.23%) followed by cognitive reappraisal (2.89%), tangible interpersonal support (2.25%), appraisal interpersonal support (2.02%), and belonging interpersonal support (0.08%) for pessimistic future thinking (Table 3).

Table 3: Regression analysis of pessimistic repetitive future thinking on measures (N=319) (Adjusted R²=.145 (F_{5,313}=11.78, $p<.01$), Durbin-Watson Value=1.61; Note. rp=part correlation, rp \times 100 = Percentage calculation of part correlation).

Predictor	Unstandardized coefficients		Standardized coefficients				
	B	SE	β	T	P	Rp	rp \times 100
Constant	14.203	2.723		5.216	0		
Emotion regulation							
Cognitive reappraisal	-0.162	0.05	-0.171	-3.275	0.001	-0.17	2.89%
Expressive suppression	0.27	0.052	0.278	5.193	0	0.269	7.23%
Interpersonal support							
Appraisal I. support	0.443	0.162	0.153	2.737	0.007	0.142	2.02%
Belonging I. support	-0.084	0.156	-0.03	-0.535	0.593	-0.028	0.08%
Tangible I. support	-0.462	0.16	-0.165	-2.898	0.004	-0.15	2.25%

Discussion

The global educational systems have been affected by this COVID-19 leading to the closing down of educational institutes and it is quite questionable how long it might proceed. The bulk of previous research suggests that the cognitive reappraisal strategy of emotion regulation, and perceived interpersonal support was negatively associated with the occurrences of psychological symptoms and positively associated with better mental health, wellbeing [21]. Thus, the present research aimed to investigate whether emotion regulation strategies and interpersonal support play any significant role in the future thinking tendencies among university students.

The results of the present study revealed that pessimistic future thinking was significantly negatively correlated with cognitive reappraisal technique and positively correlated with the expressive suppression strategy of emotion regulation. This indicated that participants who used the reappraisal technique in regulating emotion had less pessimistic thinking patterns regarding their future. Additionally, results showed that both regulation techniques were significant predictors ($\beta=-0.171$ for CR and $\beta=0.278$ for ES) of this response variable which specified that an increase of one standard deviation in cognitive reappraisal results in a 0.171 standard deviation decrease in future of pessimistic thinking patterns. On the other hand, an increase of one standard deviation in expressive suppression strategy also results in a 0.278 standard deviation increase in this type of negative thinking. Meaning higher cognitive reappraisal shown by pupils were able to lessen pessimistic thinking by minimizing and rephrasing their thoughts than those who scored high in expressive suppression strategy. The result of this current study was consistent with the previous studies where it was found that students using more cognitive reappraisal for emotion regulation would be able to beat the occurrences of negative mental health symptoms and in turn, negative future thinking [22]. On the other hand, the vast use of expressive suppression can be a contributing factor for increasing the risk of becoming more prone to face psychological issues, reducing interest in the future, and encouraging negative thinking [23].

In the case of interpersonal/social support, the results of this study expressed that tangible interpersonal support was negatively associated and also a significant predictor ($\beta=0.165$) of negative future thinking and had a positive correlation with repetitive thinking about future goals. Results revealed that an increase of one standard deviation of tangible interpersonal support results in a 0.165 standard deviation decrease in this type of negative thinking. These findings suggest that individuals having higher tangible support tends to think less negatively regarding their future as it provides some sense of security in troublesome situations. Tangible interpersonal support was also negatively correlated with Expressive Suppression (ES) indicating that good tangible interpersonal support can decrease suppression of emotions which can lead to better psychological wellbeing, similar to some previous research outcomes [24]. Interestingly, appraisal and belonging interpersonal support did not share any significant association with pessimistic future thinking in this current study. This finding was inconsistent with the earlier research findings where advice, guidance, empathy in terms of appraisal and belonging interpersonal support were found effective for better social interactions and wellbeing [25]. In support of these results, it can be stated that most of the earlier research had been conducted in ordinary times, but during the COVID-19 lockdown it may be challenging for people to get empathy as well as to work accordingly on the given advice and guidance as there is a constant fear of unknown consequences.

The COVID-19 lockdown is a new phenomenon where lifestyle has changed drastically and numerous facets of the future are deemed uncertain. Though the lockdown, abrupt closure of educational institutes has a positive impact on the prevention of transmitting the coronavirus, it disrupts students' academic functions. As they still (during the data collection period) do not get any clear indication about their whole academic processes, most of them face intolerable mental pressure and also struggle to make any assumptions about their education and future career. The findings of the present study, suggest that effective emotion regulation and having tangible interpersonal/social support during difficult times would be beneficial to eliminate the negative effect, pessimistic future thinking, and maintain the good mental health of students. So, it is the crucial time to focus on our effective regulating system like cognitive reappraisal and also emphasize staying connected and maintaining a social support network which can help people develop new patterns and new ways of thinking in any detrimental situation. And if they successfully switch their negative thoughts into positive ones, they can increase their confidence level to deal with negativity as well as uncertainty in any crisis moment.

Limitations and future research direction

Like other researches, this present study has also its limitations which leave ample room for future research to review the findings. First, the sample was drawn only from few university students having smartphone devices, good internet connection, so future studies could measure the effect of emotion regulation strategy and social support on future thinking in a more diverse sample. Second, data were collected via cluster and snowball sampling techniques which could not be manifested as the whole picture of the country. Further studies should investigate the relationship of these variables using a random sampling technique for generalizing the findings.

Conclusion

The results of the present study provide a basis for the proposition that if people can regulate their emotion constructively and can get tangible or materialistic social support during stressful life events it could act as a beneficiary for the elimination of negative perspectives related to their future and maintain overall wellbeing. Therefore, relevant authorities (government, university authorities, counseling centers, etc.) are recommended to arrange seminars, workshops, and training programs for the students to learn them using adaptive regulation techniques and also practical strategies to improve their social support networks. Due to the lockdown, social isolation, and the threat of mortal danger, they can provide these services over the phone or through different online platforms. Government and university authorities should also take some other necessary steps like provide some financial support and electronic devices to the students who need them, manage free or cheaper internet packages for them, organize training for the online classes and most importantly give a clear indication about their academic procedures during this COVID-19 period. These strategies can lessen their educational disruptions, financial pressure, psychological sufferings, and pessimistic view about their future to some extent during this outbreak.

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