

## Gratitude Cognitive Behavior Therapy (G-CBT) to Reduce College Students' Academic Stress

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**Abstract.** Stress cannot be separated from student academic life in university. This stressful condition, if not managed properly, can prevent students from successfully completing their studies. This study aimed to examine the effects of Gratitude-Cognitive Behavior Therapy (G-CBT) in reducing academic stress among students. Sixteen students were recruited for this research, all of which were working on their thesis projects. Among these participants, 10 were assigned to the experimental group and six were assigned to the control group. The effect of the intervention was tested using a quasi-experiment with an untreated control group design with pretest and posttest samples. The Academic Stress Scale and the Grateful Scale were used to measure academic stress and gratitude. Analysis using the non-parametric Mann-Whitney U Test showed that following the administration of G-CBT treatment, there was a larger reduction of academic stress among participants in the experimental group compared to the control group ( $Z = -3.264$ ;  $p < 0.05$ ). The study concluded that G-CBT intervention can reduce academic stress on students.

**Keywords:** cognitive behavior therapy; college students; gratitude; stress

Each human being will experience a stressful situation during the course of their lifetime. However people experience stress at different levels. The source of stress can be due to a person's inability to adjust with rapid social changes or due to modernization, industrialization, and the advance of science and technology. All of those changes affect moral values, ethics, and lifestyle. The inability to adjust to the inevitable and rapid change can lead to stress which also depends on each person's personality (Hawari, 2011). Stress can also be viewed as a form of interaction between individuals and their environment of which is perceived as threatening

to a person's well-being (Lazarus & Folkman, 1984).

Students in particular, are prone to stress, especially due to academic stressors associated with the learning process or academic activities (Heiman & Kariv, 2005). Students may experience academic stress when they have difficulties in following the learning process (Heiman & Kariv, 2005), or when there are many assignments to complete (Sari 2003). Stress can also emerge when the class schedules are intense (Harianja, 2016) or when students perceive that there is insufficient time to learn all the course materials (Carveth, Gesse, & Moss, 1996). Other variables associated with stress include

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failure to complete thesis project (Riewanto, 2003), lack of students' academic competence, lack of interest in research (Slament, 2003), distance from families, money management, problems in interaction with peers and adapting to a new environment (Santrock, 2003). In addition, there are some other problems that can lead to stress namely feelings of helplessness or lack of hope caused by academic burdens, conflict, and frustration due to failure to achieve goals, for example failure to obtain the grades that were expected, loss of a friend, and divorce of parents (Santrock, 2003).

However, the way a person experiences stress depends on how they cognitively evaluates and interprets an event or situation (Santrock, 2003). Psychological distress emerges because an event is perceived as threatening and all available coping resources get overwhelmed (Lazarus & Folkman, 1984). Smet (1994) explained numerous factors that affect stress including: (1) individual factors for example age, gender, genes, education, economic status, and physical conditions; (2) personality factors, for example introversion-extraversion, general emotional stability, hardiness, and locus of control; (3) social-cognitive variables, for example social networks, social support and personal control; (4) relationship with the social environment, for example receiving social support, integration between interpersonal relations; and (5) coping strategies. Lazarus and Folkman (1984) suggested that coping is an effort to change cognitions and behaviors, to manage internal and external pressures that exceed the individual's coping capacity. Academic stress experienced by students is caused by the failure to develop effective coping mechanisms to meet both academic and social demands

(Feldt & Updegraff, 2013). Therefore, effective coping of stress is needed to manage the academic stress experienced by the students.

Research by Abdillah (2014) and Widiyastari (2019) showed that gratitude had a negative relationship with stress meaning that higher gratitude is associated with lower levels of stress. Some research has shown that when students experience stress, positive emotions are often used as way of coping which would facilitate their success in higher education (Froh, Emmons, Card, Bono, & Wilson, 2011; Hixenbaugh, Dwart, & Towell, 2012; Mofidi, El-Alayli & Brown, 2014; Ruthig et al., 2008; Suldo & Shaffer, 2008). Gratitude is one form of positive emotion which can be used for coping with stress (Emmons & McCullough, 2003; Emmons, 2007). Gratitude is also associated with coping since one of its features is the approach and management of problems (for example active management, planning, positive reinterpretation and positive growth) which correlates negatively with release behaviors, denial, or withdrawal through substance abuse (Wood, Froh, & Geraghty, 2010). Santrock (2003) explained that a positive mood can promote efficient processing of information, and this can increase altruistic behaviors and self-esteem. Conversely, negative mood can make an individual angry, feel guilty, and increase their faults.

Mofidi, El-Alayli and Brown (2015) found that specific positive emotions like gratitude can assist students in gaining a positive experience and enhance their success in higher education. Individuals that are grateful tend to be more able to effectively deal with their psychological distress in responding to the pressures of everyday life (Emmons & Stern, 2013), even in severely stressful situations

(Emmons & Kneezel, 2005; Lambert et al., 2009; Watkins, Cruz, Holben, & Kolts, 2008). The elaborations above suggest that interventions that increase gratitude can increase students' coping abilities in overcoming academic stress.

Gratitude based interventions help students to learn, be aware of, and develop a sense of gratitude. Increases in gratitude lead individuals to obtain some emotional benefits (Lyubormirsky, 2007). Gratitude is related to a reduction in negative emotions, for example stress and depression (Emmons & McCullough, 2003; Emmons, 2007; Lambert, Fincham, & Stillman, 2012) and increases higher social acceptance (Wood et al., 2008). Frederickson (2004) added that positive emotions like gratitude can help individuals build physical, intellectual, social and psychological resources through a more adaptable mindset. Emmons and McCullough (2003) stated that gratitude encompasses two cognitive processes: (1) being aware that individuals have received a positive outcome and (2) awareness that external sources have a positive effect on those outcomes. Gratitude consists of three components that interact with each other namely recognition, acknowledgment, and appreciation (Emmons, 2007). People who are grateful also think wisely since they often do reflection and contemplation. Based on this, we can conclude that gratitude can emerge through a thinking process, and therefore the intervention in this research uses gratitude based cognitive behavioral therapy (G-CBT).

The current study aimed to test the effect of G-CBT in reducing academic stress among students. The G-CBT intervention was expected to improve students' ability to be grateful as one of the forms of coping toward stress. Increased gratefulness could induce students'

positive emotion which would therefore reduce the stress that they experience in the physical, emotional, intellectual, and interpersonal aspects. Therefore, the current study hypothesized that there is an effect of the G-CBT on the reduction of students' academic stress.

## Method

### *Subjects*

This study recruited students working on their final thesis projects. Sixteen students were recruited, 10 were assigned to the experimental condition and 6 students were assigned to the control condition. The following inclusion criteria were used to recruit participants: undergraduate student who were writing their thesis, both male and female, experienced academic stress within the mild-high category (Academic stress score  $\geq 81$ ), scored low-mild in terms of gratitude (Gratitude score  $\leq 85$ ) and able to read and write.

### *Measurements*

The first measure used in this study was the academic stress scale created by Nugraheni (2012) which consists of 30 items. Reliability tests on 73 students showed an Alpha Cronbach value of  $\alpha=0.897$  while tests with a total of 119 students showed a value of  $\alpha=0.922$  (Nugraheni, 2012). In addition, the gratitude scale (Listiyandini et al., 2015) which consists of 30 items was used to measure gratitude. The gratitude scale was made based on the gratitude components suggested by Fitzgerald (1998) and Watkins, Woodward, Stone and Kolts (2003); this scale consists of three components namely: (1) appreciation toward other people, God and life, (2)

positive feelings toward life, and (3) behaving in ways that express positive emotions and self-appreciation. All three components were divided into two major categories, namely transpersonal and personal. Reliability of the Gratitude Scale was tested among 264 subjects aged 20 years above. The results yielded a Cronbach Alpha of  $\alpha=0.97$  and an inter-item correlation of 0.32 – 0.79 (Listiyandini et al., 2015).

The intervention was based on the *Gratitude-Cognitive Behavior Therapy* (G-CBT) module which was prepared by the researcher and based on Miller's (1996) behavioral approach which consists of the following activities: identifying incorrect thoughts, formulating and supporting gratefulness, replacing incorrect thoughts with gratefulness, and applying gratitude in both physical and spiritual actions.

The technique used in the G-CBT module took the form of psycho-education which was aimed to develop new abilities, understand new themes, or strengthen the individual's capacity in dealing with difficult life transitions (Corey, 2012). In this module, psycho-education was used to explain the gratitude based CBT intervention. The intervention made use of a gratitude journal and gratitude letters. The Gratitude journal is a task whereby the participants are asked to write a 3 to 5 pages daily journal of the things they are grateful of (Emmons & Stern, 2013). By focusing on the things that make them grateful, it is assumed that the participants would experience more life satisfaction and positive emotions which in turn would increase personal strength (Magyar-Moe, 2009). Gratitude letters, consisted of activities where the participant writes a letter thanking God or someone that has been kind to the participant, which is then read by the

participant themselves (Emmons & Stern, 2013; Watkins et al., 2003).

The CBT intervention comprised of the following activities: (1) cognitive restructuring, namely the process of identifying and evaluating a person's thought patterns, and understanding the negative behaviors that are associated with these negative thoughts. This process would allow the person to learn and replace those negative thoughts with more realistic and adaptive thoughts (Corey, 2012). Changing the thought patterns would eventually lead to the change in a person's behaviors and emotions (Corey, 2012); (2) relaxation is a form of self-control to regulate emotions from anxiety and distress (Corey, 2012); (3) prayer is done with the purpose of changing a person's perspective to believe that each living day is a blessing from the Lord (Lambert, Fincham, Braithwaite, Graham, & Beach, 2009); (4) symbolic modeling refers to the process of individual learning by which the individual observes and imitates behaviors by watching films, videos, and other media (Corey, 2012). Symbolic modeling is sometimes as effective as modeling with real examples (Martin & Pear, 2003); and (5) homework assigned by therapist to the participant outside of therapy sessions. This would give the opportunity for the participants to practice the skills learned in therapy and practice them in real life (Corey, 2012).

The G-CBT module in the current study was a form of group therapy. The group approach is one form of intervention that involves 4-10 people and group members interact with one another. The group approach makes it possible for group members to share with other members, which is helpful when working on the assignments and also provides opportunity to learn from others (Corey,

2012). The group approach also allows feedback to be given to the therapist or facilitator and other group members (Corey, 2012). Feedback, during the course of the therapy session is an important part of learning new behaviors, since it involves appreciating and reinforcing behavior as well as giving specific advice to correct and modify behavioral mistakes (Corey, 2012). Finally, the group approach allows group members to receive psycho-education, by modeling and learning the coping behaviors of other group members, helping in the process, giving support and displaying adaptive behaviors (Corey, 2012).

Before using the intervention for research, the G-CBT module was validated using professional judgment by 18 competent individuals including psychologists, lecturers, and students from the Master of Professional Clinical Psychology Program. The validation tests of the G-CBT module are displayed in the Table 1 and 2.

Table 1 shows that all G-CBT Module activities are relevant with the goals of the therapy because it had a Aiken's  $V > 0.80$ , except for the activity "Gratitude Reinforcement through Pro-social" which had a Aiken's  $V$  of 0.72. Table 2 also shows that overall, the G-CBT module can be run in accordance with the goals of the module (Aiken's  $V = 0.81$ ), the instructions and wording is easy to understand, the

worksheets and procedures are sufficient, and the order of the topics/materials are appropriate (Aiken's  $V$  is larger or equal to 0.75). The module is considered to be appropriate to be applied to participants aged 18-50, with a minimum of a high school educational background (Aiken's  $V$  larger or equivalent to 0.75).

The time allocation for each session, each meeting and the overall module is sufficient (Aiken's  $V$  larger or equivalent to 0.75). All materials in the G-CBT Module (CBT Psycho-education, Relaxation, Cognitive Restructuring, Gratitude, Gratitude-Based Cognitive Restructuring Video, Gratitude Reinforcement Symbolic Modelling Video, Gratitude Reinforcement Pro-social Video, and Relaxation Music) were aligned with the goals of the therapy (Aiken's  $V$  above 0.70).

The assignments given during the intervention (Gratitude Based Cognitive Restructuring and Gratitude Expression) or the "daily event" and "counting blessing" assignments were judged to be aligned with the goals of the therapy (Aiken's  $V$  above 0.70). The Gratitude Based Cognitive Restructuring Worksheet was judged to be easy to understand (Aiken's  $V=0.69$ ) and the Expressing Gratitude Worksheet, the "daily event", and "counting blessing" worksheet were all judged to be easy to understand (Aiken's  $V$  above 0.80).

Table 1.

Results of the Validation Test of Relevance Between the Activities and the Activity's Goals

No.	Activities	Aiken's $V$
1	Psycho-education of Cognitive Behavioral Therapy	0.82
2	Gratitude based cognitive restructuring	0.81
3	Reinforcement of gratitude through symbolic modeling	0.82
4	Reinforcement of gratitude through pro-social	0.72
5	Expressing gratitude through gratitude letters	0.85
6	Counting blessing daily journal	0.81
7	Relaxation and prayer	0.85

Table 2.  
Results of the Relevance Test Validation of the G-CBT Module

No	Statements	Aiken's V
1	Overall, the module can be run in accordance with the module's goals	0.81
2	The instructions are easily understood by the therapist and participants	0.75
3	The wording is easily understood by the therapist and participants	0.75
4	The worksheets are easily understood and used in accordance with the goal of the module	0.82
5	The procedures are clear and sufficient	0.78
6	The order of the topics/material are appropriate	0.78
7	The module can be used for participants aged 18-50 years	0.74
8	The module can be used by participants with a minimum of high school education background	0.76
9	The time allocation for each session is adequate	0.76
10	The time allocation for each meeting is adequate	0.75
11	The time allocation for the whole module is sufficient	0.75
12	The psycho-education CBT material is aligned with the goal of the therapy	0.79
13	The relaxation material is aligned with the goal of the therapy	0.85
14	The gratitude based cognitive restructuring material is aligned with the goals of therapy	0.81
15	The Gratitude Based Cognitive Restructuring video is aligned with the goals of therapy	0.78
16	The Gratitude Based Reinforcement video: Symbolic Modelling is aligned with the goals of the therapy	0.75
17	The Gratitude Reinforcement Video: Pro-social is aligned with the goals of the therapy	0.71
18	The Relaxation Music is aligned with all the relaxation techniques used	0.74
19	The gratitude based cognitive restructuring assignment is aligned with the goals of the therapy	0.82
20	The Expressing Gratitude Assignment is aligned with the goals of the therapy	0.83
21	The "daily event" homework is aligned with the goals of the therapy	0.79
22	The "counting blessing" homework is aligned with the goals of the therapy	0.79
23	The Gratitude-Based Cognitive Restructuring Worksheet is easy to understand	0.69
24	The "expressing gratitude" worksheet is easy to understand	0.83
25	The "daily event" worksheet is easy to understand	0.81
26	The "counting blessing" worksheet is easy to understand	0.83

Overall, validation of the G-CBT Module showed that the Aiken's *V* ranged from 0.69-0.85 with an average of 0.79. Each Aiken's *V* was higher than 0.5 which indicates good content validity (Azwar, 2017). Based on these explanations, it can be concluded that the G-CBT Module has good content validity.

Additional forms were used in this research namely informed consent forms, observation forms (consisting of observation toward the subject and therapist, and the intervention process), evaluation form, and worksheets (counting blessing form, re-structuring form, and gratitude form).

*Research design and procedure*

The research used an untreated control group design with dependent pretest and post-test samples (Shadish, Cook, & Campbell, 2002). There were two groups in this research namely: (1) the experimental group which received the G-CBT; and (2) the control (waiting list) which only received G-CBT after the research had ended. Data collection was conducted in three steps; namely pretest (prior to intervention), posttest (after the intervention), and follow up (one week following the intervention) using the Gratitude Scale and Academic Stress Scale.

In the initial phase of the research, the researcher conducted a screening of potential participants. The assessment resulted in 35 participants who were willing to be subjects, but only 28 were eligible based on the criteria. Afterwards, subjects were matched and this led to the assignment of 10 participants in the experimental group and 10 participants in the control group. Prior to the research, the participants were asked to complete the informed consent forms. In the process of the intervention, there was a participant in the experiment group who did not participate fully in the group sessions. This participant did however still receive material and follow the intervention process and was still included in the research. For the control group, four subjects did not complete the posttest and therefore only 6 subjects met the criteria for further analyses.

The G-CBT intervention was conducted during the course of four meetings within three weeks, namely two weeks in the first week, one meeting in the second week, and one meeting in the third week. There was a two-week interval between the second and fourth meeting which is recommended by Emmons and Sterns

(2013) especially related to the counting blessing assignment. The meeting was conducted in groups and had duration of 100-120 minutes. The activities that were conducted during the meeting included psycho-education on cognitive behavioral therapy and gratitude, muscle relaxation, breathing and prayer relaxation, understanding situations and responses, cognitive restructuring, symbolic modeling using video, and expressing gratitude verbally and through written work. In addition, the subjects completed homework in the form of: (1) taking notes of daily events to help the subject identify situations, thoughts, and feelings, behaviors, and physiological responses; (2) writing a daily gratitude journal as a medium for the subject to record all the blessings the participant had received.

## Results

*Description of subjects*

Table 3 presents the total number of subjects in the experiment group which consisted of 10 people (seven female participants and three male participants), while the control group consisted of six subjects (Four female subjects and two male subjects). All research subjects in this research were at their final semester and aged between 20-25 years.

*Manipulation Check*

Before conducting the hypothesis tests, we checked whether the manipulation worked in accordance with our predictions. In this research, the G-CBT intervention was aimed to increase the subject's gratitude. Therefore to understand whether the intervention gave the intended effect we conducted a test on the Gratitude Scale to compare scores before and after the

Table 3.  
Summary on Research Subjects

No	Initials	Age (years)	Gender	Semester
<b>Experimental group</b>				
1	A	22	Male	9
2	S	22	Male	9
3	N	24	Female	10
4	Li	24	Female	13
5	Lu	23	Female	13
6	T	23	Female	8
7	I	23	Female	8
8	Sn	21	Female	7
9	To	21	Male	9
10	U	21	Female	9
<b>Control group</b>				
1	P	21	Female	7
2	La	23	Female	7
3	D	21	Male	7
4	R	25	Female	8
5	Ai	20	Male	7
6	F	21	Female	7

intervention (pretest – posttest – follow up), between the experimental group and the control group using non-parametric Wilcoxon test.

In Table 4 we can see that the experimental group showed higher gratitude scores at posttest compared to pretest ( $Z = -2.091$ ;  $p < 0.05$ ). Furthermore, gratitude scores at follow up was also higher compared to the pretest ( $Z = 0.420$ ;  $p > 0.05$ ). This showed that following the G-CBT intervention, there was an increase of gratitude among participants in the experiment group, while no differences

were found among participants in the control group.

In Table 5 we can see that participants in the experimental group showed lower scores of academic stress at posttest compared to pretest scores ( $Z = -2.809$ ;  $p < 0.05$ ). The same pattern was found for academic stress at follow up, which was lower compared to pretest scores ( $Z = -2.708$ ;  $p < 0.05$ ). This showed that following the G-CBT intervention, participants in the experimental group showed a reduction in academic stress, while in the control group no such reduction was recorded.

Table 4.  
Wilcoxon Test on Gratitude

Group	Measurement	p	Description	Z
Experiment	Pretest - Posttest	0.037	$p < 0.05$ (significant)	-2.091
	Pretest - Follow-up	0.036	$p < 0.05$ (significant)	-2.092
Control	Pretest - Posttest	0.080	$p > 0.05$ (not significant)	-1.753
	Pretest - Follow-up	0.674	$p > 0.05$ (not significant)	-0.420



Tabel 5.  
Results of the Wilcoxon Test on Academic Stress

Group	Measurement	p	Description	Z
Experiment	Pretest - Posttest	0.005	p<0.05 (significant)	-2.809
	Pretest - Follow-up	0.007	p<0.05 (significant)	-2.708
Control	Pretest - Posttest	0.673	p>0.05 (not significant)	-0.422
	Pretest - Follow-up	0.686	p>0.05 (not significant)	-0.405

The Non-parametric Mann Whitney U Test, tested differences of academic stress between the experimental group and the control group following the intervention. The results of the Mann Whitney test showed that following the G-CBT intervention, there was a reduction in academic stress and such reduction was higher in the experimental group compared to the control group ( $Z = -3.264$ ;  $p < 0.05$ ). The results of the analyses showed that the G-CBT intervention significantly reduced academic stress on participants in the experimental group compared to the control group. Similar effects were found at the 7-day follow up, which showed that reduction of academic stress was higher in the experimental group compared to the control group ( $Z = -2.393$ ;  $p < 0.05$ ) which suggests that the effects of the intervention had sustained for the experimental group compared to the control group.

Despite the results that confirmed expectations, not all subjects had a reduction in academic stress following the G-CBT intervention. Although nine subjects experienced a decline in academic stress scores (subject *S*, *N*, *Li*, *Lu*, *T*, *I*, *Sn*, *To*, and *U*), one person actually had an increase of the academic stress score (Subject *A*).

### Discussion

The results of the Wilcoxon test showed that there was a significant increase of gratitude scores between pretest and

posttest and between pretest and follow up among participants in the experimental group. Increase of gratitude scores showed that the intervention had an effect on participants' gratitude in the experimental group. The increase of gratitude scores cannot be separated from the implementation of the Gratitude Cognitive Behavioral Therapy (G-CBT) which was used in the intervention process. The aim of the current study was to create a valid G-CBT Module which combined elements of gratitude-based interventions and Cognitive Behavioral Therapy (CBT) to increase gratitude. The results also showed that in addition to the increase of gratitude, there were also reductions of academic stress felt by the students.

This research showed that academic stress was significantly reduced among participants in the experimental group compared to the control group. The reduction in academic stress on the experimental group occurred following the intervention of the Gratitude Cognitive Behavioral Therapy (G-CBT). This finding supports research from Wong, Blackwell, Mitts, and Gabana (2017) who found that gratitude interventions can reduce a person's stress. Study by McCraty, Barrios-Choplin, Rozman, Atkinson, and Watkins (1998) also showed that gratitude interventions reduce stress and that this is marked by reductions in the stress hormone cortisol and heart rate variability.

The gratitude intervention also influences development of emotional

coping (Lau & Cheng, 2015). Wood et al. (2010) suggested that gratitude is related with three coping categories. First, people who are grateful tend to seek social support and use their social resources when they need it. Second, people who are grateful use coping strategies that approach and overcome a problem (for example active coping, planning, positive reinterpretation of situations and finding potential for growth). Third, gratitude is negatively associated with release behaviors, denial of problems, and withdrawal from substance abuse. Three coping strategies explain why people who are grateful tend to experience less stress.

Gratitude involves two cognitive processes, namely individual awareness that they have received a positive outcome and the understanding that an external source plays a role on that positive outcome (Emmons & McCullough, 2003). Gratitude can make students feel more positive about themselves. Through gratitude, a person can feel more happy, energized, and attentive, enthusiastic, and resilient compared to when people are not grateful (Bono & McCullough, 2006). Positive feelings can increase an individual's abilities in processing information efficiently, and help them to become more altruistic and have better self-esteem (Santrock, 2003).

Gratitude can increase a person's coping capacity by eliminating the effects of negative emotion. Gratitude can also deter the adverse effects of negative emotion which lead to unhappiness, fatigue, and other psychological problems. When a person experiences gratitude, they reframe their negative experiences and view it in a more positive light, and therefore they reduce their pain and negative emotions (Allen, 2018). Positive emotion in the form of optimism, happiness,

forgiveness, hope, love and gratitude can overcome and reduce stress and depression (Tugade & Fredrickson, 2007). Some research also showed that gratitude can reduce negative emotions like stress and depression (Emmons & McCullough, 2003; Emmons, 2007; Lambert, Fincham, & Stillman, 2012).

According to the subjects in the experimental group, the intervention gave them the skills necessary to understand their own emotions, change their negative thoughts to become positive which helped them deal with stressful situations. Gratitude also broadens the cognition and allows more flexible thinking, which facilitates effective stress management and builds coping abilities from time to time (Lin, 2013). By feeling grateful, a person can overcome daily stress more effectively (Emmons & Stern, 2013). This can be useful for students in dealing with pressure from academic life, for example stress related with the complexity of course materials, the many assignments, and relations between the student and lecturer. Gratitude can help an individual experience life positively for example enjoy the blessings in life, and be satisfied and pleased with an event (Lyubormirsky, 2007).

## Conclusion

The results of the research showed that Gratitude-Cognitive Behavior Therapy (G-CBT) can reduce academic stress among students. Through the G-CBT intervention, students became more skilled in understanding their emotions, changed negative thoughts to become more positive and this led to feelings of gratitude, enjoying blessings in life all of which and which can help them in dealing with stressful conditions.

### Suggestion

Based on the research results, the following recommendations can be given. Subjects are expected to continue applying the materials and skills that they have acquired, for example writing a gratitude journal, gratitude letters and relaxation. Meanwhile, future research can test the *Gratitude-Cognitive Behavior Therapy* (G-CBT) intervention on subjects of a different demographic characteristic.

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### Authors' contribution

Literature review, creating the proposal, performing the experiments, collecting and analyzing statistical data, making decisions and writing the manuscript.

### Conflict of interest

There is no conflict of interests in regards to this research.

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