EXAM TIME: THE INFLUENCE OF SHORT TERM STRESSFUL EVENTS

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Abstract
In this study 80 freshmen education students responded to a questionnaire package concerning causal attributions for stressful life events, perceived affective state, problem-solving abilities, and level of procrastination. Results suggest that the stress experienced by freshmen students, due to end of semester exam session, might exacerbate the perception of previously lived stressful life events. Students who experienced a traumatic event of moderate to high level will report after the exams session increased levels of procrastination, less problem-solving abilities, and an increased level of potential depression symptoms.

Keywords: causal attributions; perceived affective state; stressors

Introduction

Students in first year of college often times experience a stressful life period due to multiple events, academic challenges beyond of what they were used to in high school, and they experience many changes in the transition from family environment to college. Freshmen students need to cope with a new environment, and are more or less successful in coping with it, while some seek assistance and help, others do not, which increases their level of stress and decreases their overall well-being (Currier, McDermott, Hawkins, Greer, & Carpenter, 2018; Nash, Sixbey, An, & Puig, 2017). Aside of life stressful events

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they experience particular events specific to college students: socializing with new friends, going to classes, completing homework, preparing for exams, time pressure, worries about the future, and conflicts with teachers and peers (De Anda, 1998; De Anda et al., 2000; Murberg & Bru, 2004; Stephens, Brannon, Markus, & Nelson, 2015). School related stress has an effect on school performance and on general functioning (Kaplan, Liu, & Kaplan, 2005; Kelly & Barry, 2010; Sortheix & Lönnqvist, 2015; Yeager, Walton, & Cohen, 2013). Lazarus and Folkman (1984) considered the daily hassles as negative interactions with the environment. Facing the life changes and stressors students develop diverse reactions to stressors, ranging from mild and transient ones, to significant, persistent emotional and behavioral disturbances, and at times depression (Currier et al., 2018; Dyson & Renk, 2006; Grant, Compas, Thurm, McMahon, & Gipson, 2004; Mikulincer & Solomon, 1988, 1989; Phillips, Hammen, Brennan, Najman, & Bor, 2005; Yeager et al., 2013). In order to deal with first year college life, they use instinctual or learned coping strategies, behavioral and cognitive efforts to deal with stressful encounters.

College freshmen students in the new environment need to deal with normal life stressful events (such as family related sad events, conflict with or loss of a friend, death, accidents and illnesses, etc.), as well as facing cumulative daily hassles (pressures of time management, homework, etc.), or stressful situations such as at the end semester exams time. Facing long term stressful events and daily hassles students develop different affective, emotional, and behavioral responses (Watson, Clark, & Tellegen, 1988). College students are often expected to find their place in the college environment, and finally find themselves “at home,” and in consequence, are expected to deal with life issues that requires good problem-solving skills and to demonstrate good performance in academic and general life related environment (Suhlmann, Sassenberg, Nagengast, & Trautwein, 2018). However, many students either do not seek help, or postpone attending to events and tasks that create stress, and a vicious circle is formed: procrastination may increase the level of stress, and this will lead students to negative affective responses and even depression as a response to stress (Currier et al., 2018; Lay, 1986; Nash, Sixbey, An, & Puig, 2017).

College freshmen, just as any adolescent or individual, try to cognitively explain themselves the causality and meaning of life events (Landau, 2018). The way a person makes causal attributions to stressful situations has an effect on the process of coping with stress and academic performance (Szabo, 2006; Szabo,
According to Weiner (1985, 1995) in achievement situations people tend to attribute their success or failure to one of four broad classes of causation: ability, effort, luck, or difficulty of task. Causal attribution theorists (Peterson et al., 1982; Weiner, 1985) identified three dimensions of causality: locus, stability, and globality. Locus of causality (internal or external) is the dimension in which a cause is located within a person or outside the person. Stability (stable or unstable) is the dimension in which a cause can be expected to be present at the same level every time the situation arises, or is changing. Globality (global or specific) is the dimension in what a person will categorize the cause for a situation as being particular to one single event or applying to all events in general. Related to causal attributions and how a person might approach a stressful situation is the concept of controllability. Controllability (controllable or uncontrollable) is the dimension in which a person will categorize a situation as having or not having control over. It is thought that attributions can determine people’s feelings about their predictions of success, evaluation of self-efficacy, evaluation of their beliefs and confidence in problem solving situations, the ability to modify their coping mechanism, success in different field of careers, and the probability that they will apply more or less effort toward a task in the future, in other words to procrastinate or act in a specific situation (Haycock, McCarthy, & Skay, 1998; Szabo, 2006).

The importance of causal attribution was related to the treatment of depression (Marian & Filimon, 2010; Marian & Roșeanu, 2016; Mikulincer & Solomon, 1988, 1989), as well as in helping adolescents to develop more adaptive attributions concerning school performance (Szabo, 2006; Szabo, Streitmatter & Rosser, 2006). Research results indicate that individuals with PTSD have less effective coping strategies, poor problem-solving skills, and are less focused on coping with a problem, not only in dealing with their trauma and distress, but in regards to coping with other life-related problems also (Nezu & Carnevale, 1987; Read, Griffin, Wardell, & Ouimette, 2014). Helping college students develop more adaptive patterns to deal with adversity have been proved to have long-term effects (Brady et al., 2016; Szabo, 2006). Rice, Ray, Davis, DeBlaere, and Ashby (2015) studied first-time college freshmen in STEM majors and determined that students who were highly perfectionist and reported maladaptive perfectionist patterns were also experiencing higher levels of stress, compared to their peers who reported adaptive patterns. Rice and his colleagues found that more female than male students in STEM majors were maladaptive
perfectionists, and were also more likely to report higher levels of stress. Their results also show that students who reported higher levels of stress and maladaptive perfectionist style had substantially lower GPA.

**Objective**

Considering the importance of academic performance, especially in the exams session, it is important to know if current and short term stressful events (such as exams period) have an impact on students’ affective state, and their perception of problem-solving attitudes and behavior.

The question asked in this study was if attributions for a life event and a current stressful situation will have an effect on causal attributions, affective and problem-solving perceptions in freshmen students.

**Method**

**Participants**

Participants in this study were 123 volunteer freshmen students in an education program at a university in western Romania. Students completed a questionnaire package a month before the exams period (pre-test), and immediately after the summer exam session (post-test). Students who only partially completed either the pre or post-test questionnaire, or those who did not complete at all the post-test questionnaire, were dropped from the pool of participants, and only those who had complete pre- and post-test data were considered. Out of the total number of participants only 80 students (median age 19, all white, 75 females) with valid pre- and post-test questionnaires were considered for this study. Students received a minimal number of bonus points towards classroom participation for completing both times the questionnaires.

**Measures**

The questionnaire package completed at pre and post-test was composed of the following measures (all measures were validated on Romanian population):

*Survey of Recent Life Experiences - SRLE* (Kohn & Macdonald, 1992), measures recent life experiences and the level of hassles of certain events on the person responding to 41 items on a Likert scale (1= not at all, 4=very much), evaluating the accumulation of stressful events in the last one month. A total
score was computed, higher scores representing more stress. The internal consistency of the total score was .90 (41 items). The test-retest coefficient for the two testing phases was between .66 and .78 (see Marian, 2008; Oprea, Marian, Filimon, & Banciu, 2011).

Problem-Solving Inventory - PSI (Heppner & Petersen, 1982), is a 35-item instrument to measure evaluative awareness of one’s problem-solving abilities. Responses are on a Likert scale (1=strongly agree, 6=strongly disagree). The instrument is composed of three subscales: problem solving confidence (Cronbach’s alpha .83), approach-avoidance style (Cronbach’s alpha .80), and personal control (Cronbach’s alpha .78). A total score can be computed with lower scores reflecting greater perceived problem-solving abilities (see Marian & Roşeanu, 2012).

Procrastination Scale – PI (Lay, 1986), containing 23 forced responses (Yes or No) items concerning everyday general behavior. Scores are summed across items with higher scores indicating greater procrastination. Confirmatory factor analyses indicated that from the original items only 13 were adequate for the Romanian population (see Roşeanu & Marian, 2012).

Attributional Style Questionnaire - ASQ (Peterson et al., 1982), is composed of 12 different hypothetical situations, consisting of 6 good events and 6 bad events. Each situation is followed by a series of 4 questions. For each response, participants answer a Likert scale in a range of 1 to 7. There can be computed the following different total scores: a). scores for the three different dimensions (locus, stability, and globality) separate for positive and separate for negative events, b). Composite Negative: sum of the total of all bad event scores divided by 6, and c). Composite Positive: sum of the total of all good event scores and divide by 6. The internal consistency reported by Marian (2010) was .82 for positive events, and .72.

Positive Affect and Negative Affect Schedule - PANAS (Watson, Clark, & Tellegen, 1988), measures the extent to which a person feels enthusiastic, full of energy, concentration, and engagement; as opposed to feeling sadness, lethargy, distress, or an aversive mood, disgust, guilt, fear, nervousness, including anger. A person responds 20 questions on a Likert scale (1=not at all, 4=extremely). Scores are computed for separate each scale: PA (related to social activity) and NA (related to perceived stress).

Symptom Check List 90-R - SCL 90-R (Derogatis, 1994; Holi, 2003), only the Depression scale (13 questions) was used. A total score was computed
by adding responses on a Likert scale (0=not at all, 4=extreme), to measure the change in depressive symptoms in the person responding the questions. Higher scores representing more chances for depressive symptoms.

Procedures

All participants completed the questionnaire package one month before, and at the end of the exams session. At the pretest time participants were asked to complete SRLE, then chose a traumatic event that happened in the last one month (see the compiled list of traumatic events listed by students in Appendix A), and evaluate the personal disturbance experienced on a Likert scale (1=very little, 7=very disturbing). For analysis purposes the scale was collapsed in three categories: low, moderate, and high disturbance. Students were then instructed to respond four questions (measuring: locus, stability, globality, and controllability) and rate the applicability to self from 1 to 7. All participants also completed the questionnaire package. At post-test all participants repeated the same procedures, and were again asked to think about the same disturbing event they chose and reevaluate it.

Results

Repeated measures analysis was conducted (pre to post-test), separate for the groups who reported that in the past month experienced moderate, and high level traumatic event. Also, separate analysis was conducted for groups on each attributional dimension: locus, stability, globality, and control. Because we grouped the participants based on their initial responses on the reported traumatic event, a repeated-measures t-test was more appropriate. Only statistically significant results for alpha level .05 are presented in this paper.

Results on traumatic events

For students who reported in the past month a traumatic event with moderate disturbance level, results show statistical significant increasing levels of procrastination (t=2.18; df=36; p<.03), and also the same students perceived lower problem-solving abilities (t=2.89; df=36; p<.006). Students reporting events creating a high disturbance, showed a statistical significant increase in reported adverse experience to stressors (t=2.79; df=29; p<.009), and an increase in negative stable attributions (t=3.48; df=29; p<.002).
Results on attributional dimensions

Locus. Students perceiving the cause of highly disturbing events as being internal in nature report higher levels of experienced stress \( t=2.06; \) \( \text{df}=47; \) \( p<.04 \), and believe that the cause for positive affiliation events was a stable one \( t=2.14; \) \( \text{df}=47; \) \( p<.03 \), they see negative events as having increasingly internal causality \( t=2.32; \) \( \text{df}=47; \) \( p<.02 \). This means that students who thought the cause of the traumatic event is their own fault, they also experience higher stress, in other words it seems they double blame themselves. They also report increasing levels of procrastination \( t=2.23; \) \( \text{df}=47; \) \( p<.03 \), and also the same students perceived lower problem-solving abilities \( t=2.58; \) \( \text{df}=47; \) \( p<.01 \). It is expected that if one blames self for traumatic events, will also blame self for negative events, and in consequence will procrastinate more.

The students who perceive the nature of high level of traumatic events as being external report higher levels of experienced stress \( t=2.06; \) \( \text{df}=31; \) \( p<.04 \). Students perceive that they have less control over the external traumatic events than when the cause is thought of as internal. In consequence, they will experience higher levels of stress since the person experiences the unknown (external cause) as an added stress that comes from outside.

Stability. Students who believe that the cause of the traumatic event is unstable reported also higher levels of experienced stress \( t=2.87; \) \( \text{df}=35; \) \( p<.007 \). Since, if one perceives that the cause of a traumatic event is changing too often, then the person is not able to develop any coping and adaptive mechanisms (e.g., the person expects that “Cause A” produces traumatic “event X”, but they experience next time “Cause B” produces the same traumatic “event X”), and in consequence this unexpected change in cause will increase the level of stress. Those who believe that the cause of the traumatic event is unstable, also believed that the cause of negative events is decreasingly internal \( t=3.06; \) \( \text{df}=35; \) \( p<.004 \). This means, they perceived that the negative event is less their fault, so they experienced less self-blame; which represents a better coping mechanism facing negative events. However, they also reported increasing levels of procrastination \( t=2.39; \) \( \text{df}=35; \) \( p<.02 \), and perceived lower problem-solving abilities \( t=3.25; \) \( \text{df}=35; \) \( p<.003 \). In a changing world with unstable causes for traumatic events students are less likely to complete assignments in timely manner (they procrastinate more) and feel more often inadequate to solve problems.
Those students who perceived the cause of the traumatic event as stable, reported also increased perception that the cause of negative events is internal in nature (t=2.28; df=43; p<.02). For example, if the same traumatic event has the same cause (is a stable causation), students perceive it as partly self-blame (internal causation), blaming themselves for not being able to cope with that event. Self-blaming in consequence will lead to more stress and continuous self-blaming for not being able to cope and solve the problematic situation.

*Globality.* Students who perceive the cause of the traumatic event as being specific to that particular event perceived also that the cause of the negative events is decreasingly internal (t=2.35; df=20; p<.02; t=2.43; df=35; p<.02). In other words, if a traumatic event is perceived as having only one specific cause, then the person finds it easier to not make internal attributions, and not blame self for the traumatic event and stress caused by it.

In what concerns the group of students who perceived the cause of traumatic event as global, results show an increase in reported adverse experience to stressors (t=2.48; df=58; p<.01), and higher evidence of possible depressive symptoms (t=2.16; df=58; p<.03). For example, if the cause of the traumatic event is seen as applying to all other events (global), this causes an increase in stressful experiences, and a predisposition to helplessness, giving up on “fight” and increase in self-blame, which correspond to the results of increased depressive symptoms. They show a decrease in the belief that the causes of positive affiliation events is also stable, in other words they lose their confidence that positive events are being stable (t=2.23; df=58; p<.03. They report increasing levels of procrastination (t=2.66; df=58; p<.01), and perceived lower problem-solving abilities (t=2.72; df=58; p<.009). Obviously, a person who believes that if a cause is global (being the cause of many other stressful and traumatic events), will give up on trying to solve the problems and find coping strategies, and in consequence will procrastinate more. The results show a similar pattern with those who perceive the cause of traumatic events as unstable.

*Control.* Students who report that they have control over the causes of the traumatic event present lowered causal attributions for positive affiliation events (t=2.06; df=39; p<.04). They also believe in a lesser level that the cause for negative events is internal (t=2.50; df=39; p<.04). If a person perceives as having control over the causes of a traumatic event, then she or he can better cope with the traumatic events and has a perception that negative events are not their own fault, and do not blame themselves as much.
Those who report the belief that they do not have control over the causes of the traumatic events report higher levels of experienced stress ($t=2.46; df=39; p<.01$); increased levels of reported procrastination ($t=2.57; df=39; p<.01$), and they present a lowered perception of general problem solving ($t=2.48; df=39; p<.03$). As expected, lack of control will create more insecurity and more stress facing any traumatic event. We humans like to have control over our environment and events in our life. This gives us the feeling of security and confidence in our abilities to solve the problems that we encounter.

**Discussions**

The results show that students who report a previous traumatic event that took place in the month before the exams session, which event produced a moderate or a high disturbance level, they also perceived the event in an increasingly negative way after the exams. Students reported an increased level of procrastination, and lowered level of perceived problem-solving abilities. Our results are similar to results from studies with college students and other individuals who suffered PTSD events and their attributional styles and abilities to cope with stressors (Boyraz, Granda, Baker, Tidwell, & Waits, 2015; Mikulincer & Solomon, 1988, 1989).

Students with internal locus of causality also show a pattern of increased perception of stressful experiences, increased levels of procrastination, and lower levels of perceived problem-solving abilities. Very similar results are reported by students who perceive the cause of events as being stable. Our results seem to be in line with results obtained by Rice et al. (2015), who found that maladaptive perfectionist students were more likely to experience higher levels of stress than adaptive perfectionists.

By comparison, students who consider the cause of traumatic events as being unstable seem to have a more positive perception about negative events, however, they also report increased levels of procrastination. In what concerns perceptions of causal globality, students report a pattern that usually is encountered in depression; considering the negative events as being global and internal. The lack of perceived control over events results in increased experiences of stress, increased procrastination, and lower levels of perceived ability to solve problems. A pattern similar to learned helplessness and depression, where the individual is giving up on self, and reports increased blame for negative events (Marian, 2008; Marian & Filimon, 2010).
One common conclusion that can be drawn from the results is that freshmen who experienced a stressful event of moderate to high level in the month before the exams session, report an increase in levels of perceived stress, increase in procrastination, and decrease in the perceived level of problem-solving abilities, as well as an increase in the level of potential depressive symptoms. In other words, it seems that the stress from the exams period exacerbates the perception of traumatic and stressful events adding to the perceived stress and possibly creating a depressive attributional style. This is very important for mental health care providers and administrators who work with freshmen college students. There is a perceived and actual difference between high school and college life, and often students are expected to merge and adapt immediately as they are admitted to higher education. However, as many previous studies and our present study shows, freshmen students experience college stressors in exacerbated ways, they do not have or do not know yet how to develop adaptive attributional mechanisms to help them process the stressors of life and those related to college life. Administrators and health care professionals should intentionally offer to freshmen help and make workshops available to help students develop more adaptive attributions and stress coping mechanisms.

Conclusion

Results from this study suggest that the stress experienced by freshmen students, due to end of semester exam session, might exacerbate the perception of previously lived stressful life events. Students who experienced a moderate to high level traumatic event will report after the exams session increased levels of procrastination, less problem-solving abilities, and increased level of potential depression symptoms.

These results are important especially for health counseling purposes and to help freshmen students better cope with the added stress of first year in college.

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Received January 15, 2018
Revision March 18, 2018
Accepted April 15, 2018
Appendix A

List of traumatic life events reported by students

Bad relationship
Death of close person
Car accident
Family conflicts
Conflict with friends
Physical abuse
Socio-economic issues
Broken relationship
Miscarriage
Loss of job
Major decisions in relationship
Family members’ health issues
Exams
Career decisions
Over burdening tasks