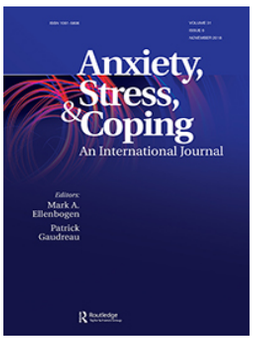

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The role of self-compassion during difficult economic times

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ABSTRACT

Background and objectives: The negative effects of the financial crisis of 2007/2008 are still being felt today as seen in the relatively high levels of youth unemployment in many countries. As a result, many young people experience high stress levels when facing an uncertain and precarious job market.

Methods: Participants were 178 undergraduate students (79% female; $M_{age} = 20.00$, $SD = 4.29$) who were randomly assigned to read a news article that documented an uncertain financial future with limited job opportunities (the *economic stress group*), or an article that documented a tour of the Royal Canadian Mint (the *control group*). The role of self-compassion was explored in its relation to distress.

Results: Correlational and hierarchical regression analyses indicated that, in the economic stress group, self-compassion negatively predicted anxiety above and beyond self-esteem and familial support. In the control group, however, self-compassion did not negatively predict anxiety above and beyond self-esteem and familial support. Additionally, structural equation modeling indicated that self-compassion was directly associated with lower anxiety and indirectly related to anxiety through perceptions of financial threat.

Conclusions: These findings suggest that self-compassion may be an important resource that is associated with less distress during times of economic threat.

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Self-compassion; anxiety; youth unemployment; cognitive appraisal; threat; financial crisis

Recently, the media have been keen on reminding students of their economic uncertainty, particularly after they graduate. This is exemplified by the titles of some news articles, indicating that "Recent graduates are finding a post-secondary education is no longer a guarantee of stable employment" (Purdon & Palleja, 2017), "Young people are nearly three times more likely to be unemployed than the rest of the population" (Boffey, 2015) and that "Students picking wrong fields, getting poor return on their education" (Maurino, 2013). One poll reports that 41% of recent post-secondary graduates took up to a year to find employment, and for those that did find a job, 40% earned less than they had anticipated (Richard, 2017).

The current economic uncertainty and anxiety felt by youth derives from the financial crisis of 2007/2008 (Greenglass, Katter, Fiksenbaum, & Hughes, 2015). Although difficult economic times can affect everyone in a society, youth tend to be hit worse than their adult counterparts, with youth unemployment rates tending to be double that of the national average (Bernard, 2013). During the financial crisis of 2007/2008 in Canada, youth unemployment rose to 15.3%, compared to the national average of 8.4% (Trading Economics, 2017a). Some European countries were hit particularly hard by the recession, as seen for example in Greece where youth unemployment rose to 60% compared to the national average of 27.9% (Trading Economics, 2017b), and in Spain where

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the youth unemployment rate rose to 56.1%, compared to the national average of 26.9% (Trading Economics, 2017c). As suggested by Prause and Dooley (2011), "Youth may indeed be more vulnerable to underemployment during recessionary times, as employers are more likely to lay off or reduce the hours of workers with less experience or for whom they have the least invested" (p. 67). This leaves working youth in an uncertain and vulnerable position, often rendering them incapable of moving out of their parents' basement (Kawa, 2016).

Although there are signs of economic recovery 9 to 10 years later, youth unemployment still remains higher than pre-recession levels around the world, including in Canada, Greece, Spain, Italy, Croatia, Portugal, Belgium, Ireland, Australia, and South Korea (Trading Economics, 2017a, 2017b, 2017c, 2017d, 2017e, 2017f, 2017g, 2017h, 2017i, 2017j). In addition, the global youth unemployment rate is not expected to weaken over the next two years (Statista, 2017). The situation is worsened when individuals may have spent many years in school preparing for a job in their field only to find that, contrary to their expectations, the jobs are not there. The experience of uncertainty about future employment, coupled with an accumulation of student debt (College Board, Annual Survey of Colleges, 2001–13, 2014), and an increase in tuition costs (Carlson, 2011) may put the student in a situation of increased worry about their financial future (Cooke, Barkham, Audin, Bradley, & Davy, 2004). The psychological effects of this worry can be substantial (Strandh, Winefield, Nilsson, & Hammarström, 2014).

In general, past research has examined the psychological effects of economic hardship *after* an economic crisis or bout of unemployment has occurred (e.g., Bell & Blanchflower, 2011). Little research has explored how youth anticipate and appraise an uncertain economic climate and whether this too produces psychological distress (Greenglass et al., 2015) and a threat to one's personal resources (Prause & Dooley, 1997). Further, little research has explored factors that can promote resilience for coping with economic threat. Individual differences including personality factors may play an important protective role during the stress process (Folkman & Lazarus, 1988) when there is a threat of unemployment (Dooley & Prause, 1997). Exploring these individual factors is a first step towards identifying those within the youth population who will require resources and help in accommodating to harsh financial circumstances.

The transactional theory of stress

One of the theories used to understand how individuals experience and cope with stress is the transactional theory of stress (Folkman & Lazarus, 1988). Folkman and Lazarus (1988) argue that the "behavioral flow" (p. 311) of stress begins with the cognitive appraisal of a stressor, which is thought to have two parts: primary appraisal and secondary appraisal. During primary appraisal, the individual may ask, "What do I have at stake in this encounter" (p. 310), which ultimately determines the emotional quality and intensity of the stressor. During the secondary appraisal process, an individual may ask, "What can I do?" (p. 310). The answer to this will ultimately determine the kinds of coping strategies used to manage the demands of the encounter. If individuals experience these demands as exceeding their resources, they will experience stress.

Recent research suggests that the transactional model can be applied to an economic stress framework (Greenglass et al., 2014, 2015; Greenglass, Marjanovic, & Fiksenbaum, 2013). Greenglass (2013) reports that financial threat, characterized by uncertainty, risk, perceived threat, worry, and cognitive preoccupation with one's finances (Marjanovic, Greenglass, Fiksenbaum, & Bell, 2013) can mediate the effect of debt on psychological distress. Greenglass et al. (2015) have also found that self-esteem significantly correlates with financial well-being – characterized by feelings of security and confidence in one's financial situation (p. 61) – which in turn can be associated with lower psychological distress. Therefore, in difficult economic times, there is a complex interplay between one's appraisal of one's financial situation, personality factors, and the person's stress response. However, since the aforementioned research was conducted in the context of an on-going economic recession, the anticipation and imagining of oneself in such a circumstance in a prospective manner

has yet to be studied. Therefore, we do not yet know the role that personality can play in mitigating the negative effects of hypothetical future economic stress, which under current economic conditions is likely to be often experienced among youth.

The protective role of self-compassion

Self-compassion entails three components: *self-kindness* – being kind and understanding to oneself rather than harsh and self-critical; *common humanity* – seeing one's experiences as part of the larger human experience rather than seeing them as isolating; and *mindfulness* – holding one's painful experiences in a balanced light rather than over identifying with them (Neff, 2003). Almost no research has analysed self-compassion in the context of an economic stress framework, as suggested by Mantzios, Wilson, and Giannou (2015). It is important to analyse self-compassion in an economic stress framework, because recent research has suggested that self-esteem and social/familial support – two variables that have been praised as being protective in coping with unemployment (Axelsson & Ejlertsson, 2002; Winefield & Tiggemann, 1994) – may actually lose their protective effects during economic threat (Hammarström, 1994; Prause & Dooley, 1997). Therefore, looking into the protective effects of other personality characteristics that may be more stable during economic uncertainty is an imperative endeavor.

Self-compassion may be associated with less distress during times of economic threat because it is associated with greater emotional resilience and stability than other protective personality resources, such as self-esteem (Neff, 2011). For instance, in one study, Neff, Kirkpatrick, and Rude (2007) assigned students to a mock job interview task where they were asked to describe their greatest weakness. Results indicated that those with high levels of self-compassion experienced less anxiety after the task, and this was not true for those with high levels of self-esteem. Also, in a series of five experiments, Leary, Tate, Adams, Batts Allen, and Hancock (2007) discovered that self-compassion was associated with lower maladaptive reactions to experienced and imagined negative life events. In one of these studies, 123 undergraduate students were asked to read about hypothetical scenarios that were posited as being negative (such as failing a test, being responsible for losing a sporting match for their team, and forgetting a part while performing a musical or dramatic performance on stage), followed by questions about how they would feel if they found themselves in the described scenarios. The results indicated that self-compassion was associated with lower negative affect, catastrophizing, and personalizing, as well as higher cognitive and behavioral equanimity in most of the imagined scenarios, even after controlling for self-esteem and narcissism. Therefore, in an economic-stress framework, it may be the case that when students high in self-compassion read a news report documenting a rough future economic climate, they may experience less anxiety than those low in self-compassion when imagining themselves graduating and not finding a job.

One of the ways in which self-compassion may be associated with less anxiety in an economic stress context is through the mediating effect of perceptions of threat. From an evolutionary standpoint, Gilbert and Proctor (2006) suggest that self-compassion may activate a specific affective processing system characterized by contentment, soothing, and social safeness that matures in the context of affectionate care (p. 356). This system, involving neurohormones such as oxytocin and opiates, may deactivate the threat system, characterized by amygdala activation, adrenaline, cortisol, and feelings of anxiety, anger, and disgust. In the case of shame-prone individuals, for instance, empirical evidence suggests that self-compassion may reduce threat system activation through its promotion of self-soothing (Johnson & O'Brien, 2013). Further, self-compassion has been negatively associated with worry (Bergen-Cico & Cheon, 2014) and rumination (Raes, 2010) and positively associated with self-improvement (Breines & Chen, 2012) and self-efficacy (Souza & Hutz, 2016), personality variables that correlate negatively highly with financial threat (Marjanovic et al., 2013). However, no research to date has examined the indirect relationship of self-compassion and state anxiety through perceptions of threat in an economic stress framework.

The current study

Purpose and hypotheses

The purpose of the current experiment was to examine the relationship between self-compassion, financial threat, and state anxiety in university students who experience economic stress (Figure 1). Based on the transactional theory of stress, we propose the following four hypotheses:

H1. Economic stress will be directly and negatively related to state anxiety.

H2. The relationship between economic stress and state anxiety will be completely or nearly mediated by perceptions of financial threat.

H3. Self-compassion will be directly and negatively related to state anxiety in the face of economic stress.

H4. The relationship between self-compassion and state anxiety in the face of economic stress will be mediated by perceptions of financial threat.

Method

Research design

An online experiment was conducted in which the independent variable was economic stress. There were two conditions in the study: an experimental (economic stress) group and a control (no stress) group. Participants were randomized to condition. Variables in the study consisted of several personality variables of interest, including self-compassion and self-esteem; personal resources (practical familial support); psychological outcomes (reports of perceived financial threat and state anxiety); and demographics (age, gender, enrollment status, employment status, first language, and annual income).

Experimental manipulation

The experimental manipulation was adapted from Wohl, Branscombe, and Lister (2014) in which the participants in the economic stress group read a fabricated news article that documented a continuing financial crisis with limited job opportunities in the future (e.g. higher unemployment rates, higher tuition costs, and lower financial aid) and participants in the control group read a fabricated news article that documented a tour of the Royal Canadian Mint, a corporation that produces Canadian and foreign coins.

Prior to reading the article, the participants were told, "You will now be presented with a randomly selected article taken from a recent edition of a major Canadian news magazine with a circulation of over 400,000. Please read this article carefully and answer the associated questions." After reading the article, participants were required to reflect and write about how they imagined they would feel if

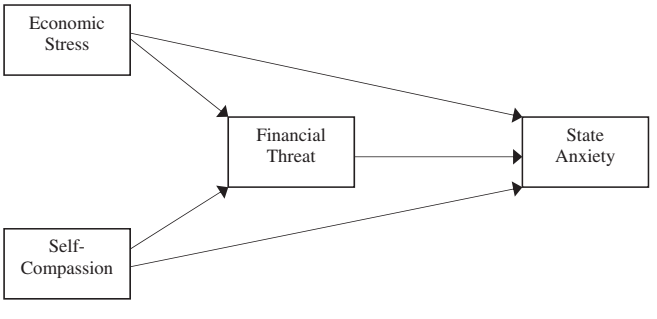

Figure 1. Theoretical model with self-compassion and economic stress both directly related to state anxiety and indirectly related to state anxiety through perceptions of financial threat.

they were to experience the situation described in the article. A text box was provided and no word limit was enforced.

Participants

The original sample consisted of 236 undergraduate students (116 in the economic stress group and 120 in the control group) recruited from a large Canadian university in exchange for course credit.[1] To protect the quality of the data obtained, participant data deletion was carried out based on the time that participants spent on the survey (the estimated survey time was 15 to 30 minutes). Participants took an average time of 123.35 minutes ($SD = 860.18$ minutes) – with a range of 2 to 9855 minutes – to complete the survey, which indicated that some quickly and non-conscientiously completed the survey, and others left the survey on for days at a time, thereby potentially washing out the effects of the manipulation. First, after frequencies of the participation durations were observed, the range of "acceptable" study duration was cut down to an interval of 6 to 58 minutes. This interval was chosen because it was the time in which the majority of the participants completed the survey. After looking at a histogram of the distribution of duration frequencies, data points at the ends were snipped off until the distribution appeared normal. The resulting study duration interval ranged from 8 to 30 minutes. Boxplots were also looked at for potential outliers, and none were found.

The final sample consisted of 178 participants (89 in the economic stress group and 89 in the control group; Table 1). The mean age of the sample was 20.00 ($SD = 4.29$) with a range of 17 to 48 years of age. 79% ($n = 139$) of the sample was female and 91.6% ($n = 163$) were enrolled in full time studies. Also, the majority of the sample learned English as their first language (77%, $n = 137$) and reported an annual income of $10,000 or less (64.4%, $n = 112$). Lastly, 46.1% ($n = 82$) were employed part time, 3.4% ($n = 6$) were employed full-time, 45.5% ($n = 81$) were not employed, and 5.1% ($n = 9$) chose "Other".[2] No group differences were found in any of the demographic variables.

Table 1. Descriptive statistics of the participants.

Variable	Economic Stress Group ($n = 89$)	Control Group ($n = 89$)	Total Sample ($N = 178$)
Age			
M (*SD*), range	20 (4.12), 17–40	19.98 (4.48), 17–48	20 (4.29), 17–48
Gender			
Female	71 (81.6%)	68 (76.4%)	139 (79.0%)
Male	14 (16.1%)	21 (23.6%)	35 (19.9%)
Other	2 (2.3%)	0 (0.0%)	2 (1.1%)
Enrollment status			
Part time	8 (9.0%)	7 (7.9%)	15 (8.4%)
Full time	81 (91.0%)	82 (92.1%)	163 (91.6%)
English first language?			
Yes	64 (71.9%)	73 (82.0%)	137 (77.0%)
No	25 (28.1%)	16 (18.0%)	41 (23.0%)
Annual income			
Less than $10,000	52 (61.2%)	60 (67.4%)	112 (64.4%)
$10,000–$19,999	15 (17.6%)	12 (13.5%)	27 (15.5%)
$20,000–$29,999	8 (9.4%)	3 (3.4%)	11 (6.3%)
$30,000– $39,999	5 (5.9%)	3 (3.4%)	8 (4.6%)
$40,000–$49,999	4 (4.7%)	4 (4.5%)	8 (4.6%)
More than $50,000	1 (1.2%)	7 (7.9%)	8 (4.6%)
Employment status			
Part time	45 (50.6%)	37 (41.6%)	82 (46.1%)
Full time	4 (4.5%)	2 (2.2%)	6 (3.4%)
Not employed	37 (41.6%)	44 (49.4%)	81 (45.5%)
Other	3 (3.4%)	6 (6.7%)	9 (5.1%)

Measures

Personality and personal resource measures

The *Self-Compassion Scale* (SCS; Neff, 2003) is a 26-item measure, in which participants indicate how often they behave in the specified manner. The responses are scored on a 5-point Likert-type scale, ranging from 1 (*Almost never*) to 5 (*Almost always*). A sample item is, "When something painful happens I try to take a balanced view of the situation." Higher scores reflect higher levels of self-compassion. The scale has demonstrated test-retest reliability ($r = .93$) as well as discriminant validity (Neff, 2003). A reliability analysis in the current sample confirmed these results (Cronbach's $\alpha = .90$)

The *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) is a 10-item scale that measures an individual's level of self-worth. Participants indicate how much they agree with the statements on a Likert-type scale from 1 (*Strongly disagree*) to 4 (*Strongly agree*). Higher scores reflect higher levels of self-esteem. An example item is, "I feel that I am a person of worth, at least on an equal basis with others." The measure has indicated excellent reliability and validity (Rosenberg, 1965). The Cronbach's α in the current study was .86.

Practical Familial Support (PFS; Caplan, Cobb, French Jr, Harrison, & Pinneau Jr, 1980) is a measure adapted from Caplan et al. (1980) measure of practical social support. In the current study, the instructions were modified to refer to the extent to which a family member is helpful in a practical sense. An example item is, "How much does your family go out of their way to make things easier for you?" in which participants respond on a scale from 1 (*Not at all*) to 4 (*Very much*). Higher scores reflect higher levels of practical familial support. In the current study, a reliability analysis indicated that the scale was reliable: Cronbach's $\alpha = .87$.

Psychological outcome measures

The *Stress Appraisal Measure – Threat Subscale* (SAM-T; Peacock & Wong, 1990) is a 4-item measure that assesses the extent to which an individual appraises a future situation as having potential for harm or loss. For the purposes of this study, the instructions were modified to refer to one's future financial situation, and thus, the scale was used as a manipulation check. Participants answer on a scale from 1 (*Not at all*) to 4 (*Extremely*). Higher scores reflect higher levels of threat appraisal. An example item is, "Does this situation make me feel anxious?" The scale has demonstrated good internal consistency, with Cronbach's alpha ranging from .65 to .75, as well as construct, convergent, and divergent validity (Peacock & Wong, 1990). A reliability analysis in the current study indicated that the scale had excellent reliability, in which Cronbach's α was .91.

The State-Trait Anxiety Scale – State Subscale (STAI-S; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) is a 20-item scale that measures the extent to which an individual is experiencing anxiety at that very moment. Participants answer on a Likert-type scale from 1 (*Not at all*) to 4 (*Very much so*). Higher scores reflect higher levels of state anxiety. An example item is, "I feel nervous." The scale has demonstrated great internal consistency for both college students and working adults (all $\alpha s < .90$) as well as convergent, concurrent, divergent, and construct validity. A reliability analysis in the current study indicated excellent reliability (Cronbach's $\alpha = .95$). The Financial Threat Scale (FTS; Marjanovic et al., 2013) is a 5-item scale that measures the extent to which an individual feels uncertain, threatened, worried, and cognitively preoccupied with their financial situation. The instructions were modified to refer to one's future financial situation. On a scale from 1 (*Not at all*) to 5 (*Extremely*), participants indicate how financially threatened they feel. Higher scores reflect higher levels of financial threat. An example item is, "How uncertain do you feel?" The scale has demonstrated reliability and validity (see Marjanovic et al., 2013). The scale also demonstrated reliability in the current study (Cronbach's $\alpha = .88$).

Demographics

Participants responded to questions relating to age, gender, enrollment status, whether English was their first language, annual income, and employment status.

Procedure

Undergraduate students enrolled in an introductory psychology course were invited to participate in a voluntary, confidential, and anonymous online study in exchange for course credit. The study was conducted on Qualtrics, a software program that allows researchers to conduct and administer online surveys. In the consent form, participants were told that the purpose of the study was to examine "how people feel about money". This cover story was administered in order to ensure that responses were not biased. Participants provided their consent by clicking "I agree to participate" on the online questionnaire.

First, participants were given the personality and personal resource measures. Then, they were randomized to condition, in which half were asked to read the economic stress article and the other half received the Mint article. After writing about how they would feel if, upon graduation, they were to experience the situation described in the article, participants were given the measures related to psychological outcomes as well as demographics. Participants were fully debriefed upon completion of the study, in which they were assured that the article they read, regardless of condition, was false and fabricated. All study procedures were approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board (Certificate number: 2016 - 373).

Results

Prior to testing the hypotheses, the data were checked for outliers and normality. Histograms, boxplots, as well as skewness and kurtosis values were analysed, and the data appeared to be normal and no outliers were detected. All of the data were analysed using SPSS version 23 (IBM, 2014) and R programming language (RStudio Team, 2015).

Manipulation check

Independent sample *t*-tests compared the two groups on all composite measures (Table 2). The first *t*-test was conducted as a manipulation check, in order to see if the economic stress article produced its desired effects. Results indicated that those in the economic stress group had significantly higher levels of threat appraisal than those in the control group (see Table 2). This means that those who read the economic stress article viewed their future financial situation as having a greater potential for harm or loss than those who read the Mint article. Secondly, financial threat was significantly higher in the experimental condition than in the control group. Thus, those who read the economic stress article experienced higher levels of uncertainty, threat, worry, and cognitive preoccupation with their future financial situation than those who did not read the article. Lastly, those in the economic stress group expressed more state anxiety than those in the control group. This demonstrates that those who read the economic stress article expressed more anxiety in the present moment than those who read the article that documented a tour of the Mint.[3] Also, participants in both conditions

Table 2. Manipulation check for composite variables across conditions.

	Economic Stress Group ($n = 89$)		Control Group ($n = 89$)					
Variable	*M*	*SD*	*M*	*SD*	*t*	*df*	95% *CI*	*d* (95% *CI*)
Threat appraisal	3.60	0.99	2.60	0.92	6.95***	176	[0.71, 1.28]	[0.73, 1.36]
Financial threat	3.00	0.95	2.58	0.88	3.05**	176	[0.15, 0.69]	[0.16, 0.76]
State anxiety	49.17	12.92	44.38	13.92	2.38*	176	[0.81, 8.76]	[0.06, 0.65]
Self-compassion	2.94	0.61	2.93	0.49	0.16	176	[0.15, 0.18]	[−0.32, 0.27]
Self-esteem	27.39	4.75	27.88	5.41	−0.63	176	[−1.02, 1.99]	[−0.20, 0.39]
Familial support	3.18	0.85	3.29	0.78	−0.95	176	[0.12, 0.36]	[−0.15, 0.44]

Note: *CI* = Confidence Interval; *d* = Cohen's *d*. *$p < .05$, **$p < .01$, ***$p < .001$

were compared in their levels of self-compassion, self-esteem, and practical familial support. No differences were found (all *ps* > .05).

Correlational analysis

Table 3 presents the correlations among self-compassion, self-esteem, and practical familial support with the outcome measures in both the economic stress group and the control group (Table 3). Financial threat and self-compassion were significantly negatively correlated in the economic stress group; however, this was not true for self-esteem or practical familial support. However, when controlling for self-esteem and practical familial support, self-compassion was no longer significantly negatively correlated with financial threat. In the control group, however, a different picture emerged. Specifically, after controlling for self-esteem and practical familial support, self-compassion was no longer associated with financial threat, but self-esteem was. Practical familial support did not correlate significantly with financial threat in the control group. Therefore, although self-compassion was the only personality variable to be associated with financial threat in an economic stress context, the relationship was not statistically significantly unique.

Second, self-compassion, self-esteem, and practical familial support significantly and negatively correlated with state anxiety in both conditions; however, these correlations were stronger in the control group (see Table 3). In the economic stress group, self-compassion was uniquely and negatively associated with state anxiety, but self-esteem and practical familial support were not. In the control group, however, self-compassion was only marginally uniquely associated with lower levels of state anxiety; self-esteem and practical familial support, on the other hand, were uniquely and negatively associated with state anxiety. These results suggest that, when a student reads a news article that documents an uncertain financial future, and then imagines what it would be like to experience such a future, higher levels of self-compassion are associated with lower levels of state anxiety, and the same cannot be said for self-esteem or practical familial support. This relationship was found to be significant only in the economic stress group, which also suggests that self-compassionate attitudes may be relevant particularly during times of hardship.

Hierarchical regression analyses

Seeing that self-compassion was the only variable that significantly and negatively correlated with state anxiety, a hierarchical regression analysis was conducted in order to assess the unique amount of variance in state anxiety that self-compassion accounted for above and beyond self-esteem and familial support (Tables 4 and 5). Specifically, a three block hierarchical regression was conducted for both the economic stress group (see Table 4) and the control group (see Table 5) with state anxiety as the dependent variable. For both groups, block one included only practical familial support, block two added self-esteem, and block three added self-compassion to include practical familial support, self-esteem, and self-compassion.

Table 3. Comparative correlations of self-compassion, self-esteem, and practical familial support on financial threat and state anxiety.

	Economic Stress Group ($n = 89$)			Control Group ($n = 89$)		
Variable	Self-compassion	Self-esteem	Familial support	Self-compassion	Self-esteem	Familial support
Financial	−.24*	−.20	.01	−.33**	−.41***	−.13
threat	−.16	−.08	.06	−.07	**−.27***	−.01
State	−.46***	−29**	−.25*	−.55***	−.65***	−.37***
anxiety	**−.37*****	−.01	−.20	−.20	**−.42*****	**−.24***

Notes: The upper number in each cell is the Pearson Correlation. The lower number is the partial correlation with the influence of the other two variables removed. Significant partial correlations are presented in boldface type. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 4. Results of hierarchical regression analysis predicting state anxiety in the economic stress group ($n = 89$)

Independent Variables	R^2	Δ R^2	*df*	*p*
Block I				
Familial support	.06	.06	87	.017
Block II				
Familial support	.12	.06	86	.014
Self-esteem				
Block III				
Familial support	.24	.12	85	<.001
Self-esteem				
Self-compassion				
Block III		β	*t*	*p*
Familial Support		−.18	−1.91	.060
Self-Esteem		−01	−0.05	.956
Self-Compassion		−.43	−3.70	<.001

In the economic stress group, the overall model was significant, $F(3, 85) = 9.36$, $p < .001$. The model indicated that self-compassion was the only variable to significantly and negatively predict state anxiety, adding an additional 12% of the variance above and beyond practical familial support and self-esteem. In the control group, the overall model was also significant, $F(3, 85) = 25.81$, $p < .001$, however, self-compassion did not significantly and negatively predict state anxiety, adding only 2% of the variance above and beyond practical familial support and self-esteem.

Testing the theoretical model

In the model presented in Figure 1, it was proposed that economic stress would be positively related to state anxiety. Economic stress is an independent variable consisting of two levels: an economic stress group (dummy coded as 1) and a control group (dummy coded as zero). For the indirect path, it was proposed that economic stress was indirectly associated with state anxiety through financial threat. Also, it was proposed that self-compassion was both directly related to state anxiety and indirectly related to state anxiety through financial threat. Structural equation modeling was used to analyse the data. All analyses were conducted using AMOS version 23 (Arbuckle, 2014). The maximum likelihood parameters were utilized. The analysis was performed on 178 respondents.

The analysis of the model indicated that the theoretical model was an acceptable fit to the data. Examination of the standardized coefficients showed that the direct path leading from economic stress to state anxiety was non-significant, $\beta = .07$, $p = .213$. Therefore, this path was deleted from the analysis for model parsimony (Figure 2).

The modified model yielded a good fit of the data to the model. Other fit indices (e.g., GFI, CFI, NFI, and RMSEA) were highly satisfactory (Table 6).

Table 5. Results of hierarchical regression analysis predicting state anxiety in the control group ($n = 89$)

Independent Variables	R^2	ΔR^2	*df*	*p*
Block I				
Familial support	.13	.13	87	< .001
Block II				
Familial support	.45	.32	86	< .001
Self-esteem				
Block III				
Familial support	.47	.02	85	.065
Self-esteem				
Self-compassion				
Block III		β	*t*	*p*
Familial Support		−.19	−2.28	.025
Self-Esteem		−.46	−4.30	<.001
Self-Compassion		−.20	−1.90	.065

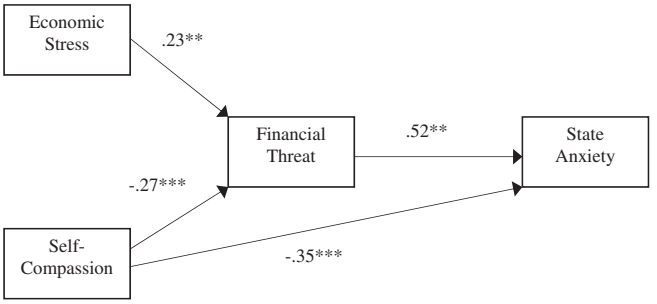

Figure 2. Modified theoretical model with standardized coefficients displayed.
Note: $^{**}p < .01$, $^{***}p < .001$.

Economic stress was indirectly related to state anxiety through financial threat ($\beta = .23 * \beta = .52$). This means that those who read the economic stress article experienced higher levels of state anxiety than those who did not read the article, and this effect was mediated by their perceived financial threat. Secondly, self-compassion was directly and negatively related to state anxiety ($\beta = -.35$) and indirectly related to state anxiety though financial threat ($\beta = -.27 * \beta = .52$). Thus, this model suggests that self-compassion seems to be associated with less anxiety both indirectly through reports of less financial threat, and directly through reports of less state anxiety.

Discussion

The purpose of the experiment was to examine the direct and negative relationship between self-compassion and state anxiety as well as the indirect and negative relationship between self-compassion and state anxiety through perceptions of financial threat for those who experience uncertainty about their financial future. Firstly, as hypothesized, self-compassion was negatively and indirectly related to state anxiety through financial threat. These findings coincide with research analysing the relationships among other personality variables and financial threat. Specifically, Marjanovic et al. (2013) found that self-efficacy and financial threat were negatively correlated ($r = -.24$), which is the same magnitude of the negative relationship found between self-compassion and financial threat in the current study.

Self-compassionate individuals may be less likely to experience anxiety through perceptions of financial threat because they may be less likely to blame themselves for not being able to find employment than people who are more self-critical. In this way, self-compassionate students may have a hypo-egoic mindset (Leary & Terry, 2012), a psychological state "characterized by relatively little involvement of the self" (p. 272). As such, self-compassionate people may be less susceptible to ego threats (Johnson & O'Brien, 2013), because they are less likely to believe that the inability to find adequate employment in the future is a personal flaw. However, it is important to note that when controlling for self-esteem and practical familial support, this relationship was no longer statistically significant. Therefore, there appears to be an important and complex interplay between self-compassion, self-esteem, practical familial support, and financial threat. For instance, it may be the case that self-compassion, self-esteem, and practical familial support work in

Table 6. Fit indices for the theoretical model.

Model	χ^2	*df*	*p*	*GFI*	*AGFI*	*NFI*	*CFI*	*RMSEA*	*PCLOSE*
Initial model	.03	1	.87	1.00	.99	1.00	1.00	.00	.89
Modified model	1.57	2	.46	.99	.98	.99	1.00	.00	.59

Notes: *GFI* = Goodness of Fit Index, *AGFI* = Adjusted Goodness of Fit Index, *NFI* = Normed Fit Index, *CFI* = Comparative Fit Index, *RMSEA* = Root Mean Square Error of Approximation, *PCLOSE* = the *p* value for testing the null hypothesis that the RMSEA is $\leq .05$.

conjunction with one another. Future research can test this relationship in an economic stress context by experimentally manipulating these variables and observing their combined effect.

Secondly, as hypothesized, self-compassion was directly and negatively associated with state anxiety, even after controlling for self-esteem and practical familial support, and this was true only in the economic stress group. Furthermore, self-compassion added an additional 12% of the variance in state anxiety above and beyond practical familial support and self-esteem. Interestingly, a different picture emerged in the control group, in which self-esteem and practical familial support were uniquely and negatively associated with state anxiety, but self-compassion was not. Also, self-compassion did not significantly and negatively predict state anxiety in the control group, adding only 2% of the variance in state anxiety above self-esteem and practical familial support. Therefore, it might be the case that self-compassion is most salient during times of stress, and "relevant *precisely* when people feel inadequate or fall flat on their face" (Neff, 2011, p. 9, emphasis in original). We speculate that the salience of self-compassion during times of economic threat may be due in part to the physiological system that self-compassion activates (Gilbert & Irons, 2005). Specifically, Gilbert and Irons (2005) propose that self-compassion activates the self-soothing system, characterized by feelings of secure attachment, safeness, and the oxytocin-opiate system, while simultaneously deactivating the threat system, characterized by feelings of insecurity, defensiveness, and the limbic system. Since there was no threat in the control condition, the practice of self-soothing was unnecessary and thus, the unique and negative association between self-compassion and state anxiety was attenuated.

The negative association between self-compassion and state anxiety supports other correlational research, in which Neff, Kirkpatrick, and Rude (2007) found that self-compassion negatively correlated with state anxiety in a stressful circumstance, even after controlling for self-esteem. Also, Leary et al. (2007) found similar results, in which self-compassion negatively correlated with imagined negative affect in embarrassing and threatening situations, and this correlation remained significant after controlling for self-esteem and narcissism. In another study, Sirois, Molnar, and Hirsch (2015) found that self-compassion predicted stress levels in those who were chronically ill, with similar coefficients in the current study. Thus, the current research further supports the notion that self-compassion is negatively associated with distress, even when controlling for self-esteem.

Further, findings from this experiment provide additional evidence for the value of studying financial difficulty within a stress and coping framework. As hypothesized, financial threat mediated the effect of the economic stressor on state anxiety. This means that reading an economically stressful article and imagining oneself graduating and not finding a job can lead to an appraisal that one's future financial situation is at risk, and this appraisal then results in an increased experience of state anxiety. Thus, the transactional theory of stress can be applied to an economic stress framework. Specifically, Folkman and Lazarus (1988) argue that cognitive appraisal is a mediator of a stressor on negative emotions. In the current research, the appraisal that one's future financial situation was threatened led to an increase in the stress response. Also, Folkman and Lazarus (1988) suggest that secondary appraisal, i.e., the process of evaluating and selecting coping strategies and other resources, play an important role in reducing the salience and effects of a stressor. This was supported in the current study, in which self-compassion acted as a resilient form of secondary appraisal and thus, was associated with a decrease in the stress response. This finding supports recent research on the transactional theory of stress. For instance, Blau, Petrucci, and McClendon (2013) found that cognitive appraisal, optimism, depression, and financial strain significantly predicted life satisfaction in unemployed adults. Using structural equation modeling, Gomes, Faria, and Lopes (2016) sought to examine the role of primary and secondary appraisals in a stressful occupation: nursing. They found that threat appraisals were positively associated with mental health problems, whereas challenge appraisals, coping potential, and control perceptions were negatively related to nurses' mental health problems. Therefore, the current research not only supports past research that highlights the salience of cognitive appraisal and personal resources during times of

stress, but it also demonstrates that the transactional theory of stress can be applied in an economic context as well.

Implications

Results presented here suggest that when students consider scenarios that document an uncertain financial future, and imagine themselves in such circumstances, they are likely to experience increased levels of financial threat that lead to increased state anxiety. This raises important implications for student mental health. Specifically, when compared to a normative sample of undergraduate students, the anxiety levels of those in the economic stress group were around the 90th percentile (Spielberger et al., 1983). As such, it may be worthwhile for university campuses to raise awareness about the relationship between financial threat and anxiety in order to mitigate or prevent feelings of uncertainty that students may have in finding a job after graduation.

This study also has important theoretical implications. Firstly, it was demonstrated that the transactional theory of stress could be applied to an economic stress framework. At the same time, it could be argued that the model of conservation of resources (Hobfoll, 1989) also has an important part to play. Specifically, Hobfoll (1989) argues that psychological stress is "a reaction to the environment in which there is (a) *the threat of a loss of resources,* (b) the net loss of resources, or (c) a lack of resource gain following the investment of resources" (p. 516, emphasis added). In this way, people strive to maintain their resources and what is threatening to them is the potential or actual loss of such resources (p. 516). In the current experiment, anxiety was observed because one's future financial resources were threatened. Also, when comparing the correlations between self-esteem, practical familial support, and state anxiety, the coefficients were much weaker in the experimental group. Thus, it might be the case that students also experienced anxiety in the economic stress group because their personality and personal resources – namely self-esteem and familial support – were threatened as well. Self-compassion as a resource may be more robust during times of economic uncertainty, and this was demonstrated in the strong and unique negative correlations between self-compassion and state anxiety in the economic stress group. In this way, both the "resource" aspect of the conservation of resources model and the "secondary appraisal" aspect of the transactional model may be equally applied in this context.

Limitations and future directions

First, self-compassion was conceptualized as a stable, trait-like personality factor. It may be the case that self-compassion is better conceptualized as a skill. Research has indicated that when self-compassion is experimentally induced, it is more strongly associated with less negative affect than a self-esteem induction (Leary et al., 2007). Future research should aim to utilize a self-compassion induction within an economic stress context. In this way, the causal role of self-compassion and its ability to reduce the psychological effects of economic stress will be more strongly supported.

Second, while the use of an experimental design enables the attribution of causality, at the same time, it could be argued that it reduces ecological validity. Future research could be directed towards the use of questionnaire data to test the relationships established here but in real-life situations involving the job market.

Conclusions

Self-compassion, "being open to and moved by one's own suffering, experiencing feelings of caring and kindness toward oneself, taking an understanding, non-judgmental attitude toward one's inadequacies and failures, and recognizing that one's experience is part of the common human experience" (Neff, 2003, p. 224) has been consistently demonstrated to be an adaptive response to stress. Self-compassion has shown to be associated with less distress in times of chronic illness

(Sirois et al., 2015), social stress (Bluth et al., 2016), in coping with academic failure (Neff, Hsieh, & Dejitterat, 2005), during ego threat (Neff et al., 2007), and now, when anticipating economic stress. In the current study, not only was self-compassion associated with lower financial threat and state anxiety, but it was also negatively associated with state anxiety after controlling for self-esteem and practical familial support – two variables that have been demonstrated to be important in the economic stress literature.

Notes

1. Data collection ceased after the sample size reached 236 because a power analysis conducted through the program *G*Power* (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that, in order to obtain an effect size of 0.5, a sample size of 210 (with 105 participants in each condition) was necessary.
2. Participants indicated that they only worked during the summer, were small business owners, or employed but not yet working.
3. In order to control for the spiralling alpha rate, the Holm-Bonferroni approach was used. This approach was used because it has been demonstrated to be more powerful than the Bonferroni approach (see Aickin & Gensler, 1996). After the Holm-Bonferroni correction was conducted, group differences in threat appraisal, financial threat, and state anxiety were still statistically significant: $p < .001$, $p = .005$, and $p = .018$, respectively.

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