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# **EMOTIONS IN LEARNING, TEACHING, AND LEADERSHIP**

## **ASIAN PERSPECTIVES**

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# 1 To work hard or not? The conflicting effects of negative emotions on persistence after academic failure in a Confucian heritage cultural context

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and Hsiou-Huai Wang*

## **Introduction**

Failing is inevitable and essential to academic learning. What matters is how individuals respond to it. Previous research indicates that East Asian students in Confucian heritage cultures (CHCs) tend to persist after failure (Heine, Kitayama, Lehman, Takata, Ide, Leung, & Matsumoto, 2001; Zhang & Cross, 2011). Heine et al. (2001) found that North Americans who failed on a task persisted on a follow-up task less than those who succeeded, whereas Asians who failed persisted more than those who succeeded. These contrasting patterns highlighted the difference in the two groups' motivation orientations: While Americans emphasize self-enhancement, Asians emphasize self-improvement. Zhang and Cross (2011) also found that Americans were more likely to report that their success enhanced their self-esteem, whereas Chinese viewed failures as more tolerable and as less damaging to their self-esteem. Moreover, Van Egmond, Kühnen, and Li (2013) found that Americans, with a more mind-oriented approach to learning, tended to view failure as a frustrating and disengaging factor that reduced learning motivation. In contrast, Asians, with a more virtue-oriented approach, were inclined to regard failure as a motivator for making subsequent effort to improve one's inadequacies. However, this line of research primarily focused on individuals' cognition and behavior toward academic failure, neglecting the impact of affect on subsequent persistent behavior. This study thus aims to bridge the gap in the literature to examine the impact of emotions on persistence, especially in the Confucian cultural context.

Academic failure inevitably triggers negative emotions. It is widely believed that negative feelings may lead to demotivation. However, Pekrun and colleagues (2007) suggested that some negative emotions, such as hopelessness, are demotivating, while other negative feelings, such as shame, motivate students to work harder after failure. Fwu and colleagues (2018) found that, for Taiwanese students, negative emotions such as indebtedness toward parents and to self could motivate students to work harder following academic failures. It seems that for Asian students, negative emotions may play a role in how they deal with academic failure and whether they persist after failure.

This research thus focuses on how negative emotions motivate and/or demotivate Taiwanese students to engage in subsequent effort after failure.

### ***Pekrun's theory of academic emotions***

Pekrun's (2006, 2016) control-value theory posits that control appraisals are one of the proximal determinants of students' emotions after academic failure. Appraisals of control over academic outcomes involve causal attributions and expectancies. The former are the retrospective cognitions relating to the causes of a given effect (e.g., the causes of failure on a recent examination), and the latter, the prospective cognitions addressing relations between causes and their future effects (e.g., projected performance on an upcoming examination). Causal attributions of failure are expected to influence retrospective emotions such as shame, and causal expectancies are expected to influence prospective emotions such as hopelessness.

Retrospective and prospective emotions may have motivating or demotivating effects on individuals' subsequent behaviors. Pekrun et al. (2007) further used valence (positive vs. negative or pleasant vs. unpleasant) and activation (activating vs. deactivating) to classify these emotions into four types: Positive activating (e.g., enjoyment, hope, pride), positive deactivating (e.g., relaxation, relief), negative activating (e.g., anger, anxiety, shame) and negative deactivating (e.g., boredom, hopelessness). These emotions influence students' learning by affecting their attention, motivation to learn, use of learning strategies and self-regulation of learning (Pekrun, 2014). If students retrospectively attribute their failure to internal factors such as lack of ability and effort, negative activating emotions such as shame can be instigated, triggering subsequent effort-making. When students foresee their future performance as uncontrollable, negatively deactivating emotions such as hopelessness will be aroused, reducing their motivation to make further effort (Pekrun, 2006; Pekrun & Stephens, 2010).

### ***Role obligation theory of self-cultivation in Confucian heritage cultures***

Role obligation is deemed the essence of Confucian ethics. Unlike the individualist-oriented societies in the West, the relationally oriented CHCs tend to focus on the roles in family relationships and interpersonal networks (Hwang, 1999, 2012). Role ethics is considered the core of the relationalism in CHCs (Ames, 2011). Roles are ascribed for individuals to fill in order to maintain the relationships. Among all the relationships, the roles in the five dyads are deemed cardinal ethics (五倫). These dyads are father–son, elder brother–younger brother, husband–wife, elder–junior and ruler–minister. It is imperative that individuals fulfill the obligations inherent in the appropriate roles in each dyad, such as kind father and filial child (父慈子孝), or responsible husband and submissive wife (夫義婦聽) (Hwang, 1999, 2012). It

is believed that if each individual in the society fulfills his/her obligations, a harmonious society will be realized. Therefore, individuals are expected to exert themselves to fulfill their role obligations in the ethical relationships; in the process, their character and virtues are gradually cultivated. In other words, fulfilling one's role obligations is a way to cultivate and perfect oneself to become a virtuous person. Among all the virtues, filial piety is regarded as the most important due to the inseparable blood bond between parents and children (Hwang, 1999, 2012). Individuals are expected to exert themselves to be filial in order to be regarded as virtuous. Fulfilling one's obligations toward one's parents and perfecting oneself through cultivation are critical to one's psychological well-being. Psychosocial homeostasis can be reached only when an individual fulfills these obligations. As expectations for realizing filial piety and self-perfection can be constantly elevated without limits, individuals are obliged to cultivate themselves to achieve the ultimate goal of becoming a virtuous person throughout their lives. Under such expectations, inadequacies to achieve this goal may lead to feelings of indebtedness (Fwu, Chen, Wei, & Wang, 2018). If one fails to uphold filial obligations, meaning one also fails to achieve one's ultimate good as an ideal virtuous person, one may feel indebted toward one's parents and oneself (Chiu, 2011; Fwu et al., 2018; Kang & Larson, 2014).

For school-aged children, the primary way to fulfill their filial duty is to study hard and perform well in school. In ancient Chinese society, self-cultivation was closely related to learning. In traditional schooling, children studied the "Four Books and Five Classics (四書五經)", which mainly taught the ethical principles for fulfilling the cardinal role obligations. They were expected to study hard so as to practice filial piety and perfect their virtues through learning. This role obligation theory of self-cultivation (ROT) is still influential in contemporary CHCs. Nowadays, students are still expected to study hard and perform well to fulfill their filial obligations and practice self-cultivation. Academic failure is thus viewed as an indication of failure in their duties, triggering feelings of indebtedness toward their parents and themselves.

Under ROT, one's character can be changed by constant self-improvement. One's virtues can be continuously grown through effort. One similarity between Dweck's (2006; Dweck & Leggett, 1988) incremental theory of self and ROT is that both emphasize the malleability of personal qualities. However, a key difference is that ROT focuses on the ethical/virtuous aspects of a person, such as filial piety, whereas Dweck's theory focuses on the cognitive domain, such as intelligence. Unlike Dweck's theory, which holds that one's qualities can be changed, the ROT perspective maintains that individuals' qualities and traits should be constantly improved. It is an individual's obligation to transform oneself through constant self-cultivation to achieve the ultimate good (至善), as depicted in a Chinese axiom, "If you can improve yourself in a day, do so each day, forever building on improvement" (original source: 《大學》「苟日新, 日日新, 又日新」).

***Conflicting negative academic emotions after academic failure***

When facing academic failure, students in CHCs may experience two types of negative emotions. One is the feeling of hopelessness, which originates from a sense of uncontrollability, such as a lack of ability. When students attribute their failure to lack of ability and feel they can do nothing to improve their performance, they may foresee a pessimistic future. Such cognitions may trigger a sense of hopelessness. Pekrun (2017) found that hopelessness, a negative deactivating emotion, can lead students to withdraw attention, avoid effort, procrastinate in doing assignments, fail examinations and drop out of school. Thus, we hypothesized that:

- Path 1: Hopelessness negatively predicts effort-making.

Furthermore, in Pekrun's (Pekrun, Frenzel, Goetz, & Perry, 2007; Pekrun, Goetz, & Perry, 2005) spectrum of negative emotions due to academic failure such as shame and anxiety, shame is primarily an emotional response to one's own inadequacies, whether in one's ability or one's traits, and anxiety mainly arises from responses to uncertain situations in the future. Unlike the above emotions of shame and anxiety, which are primarily based on individual perspective/performance, this study proposes another type of negative emotion, feelings of indebtedness, based on the role ethics in relationally oriented CHCs. Such feelings are related to failure to fulfill one's filial obligations toward one's parents and failure to cultivate one's character. Because academic achievement is often deemed as a prime goal and obligation for school-aged children to pursue (Tao & Hong, 2014), parents often expect their children to study hard and excel academically to fulfill their duty as a filial child. When students fail to achieve academically, they should reflect on whether they have made enough effort to fulfill their obligations toward their parents and self, as depicted in the Confucian classics, "When one fails to achieve one's goal, one should reflect upon if one has exerted oneself in the process" (original source: 孟子《離婁上》「行有不得，反求諸己」). If students have not exerted themselves enough, they may feel a strong sense of indebtedness.

Fwu et al. (2018) found two types of indebtedness: Indebtedness to parents (I-Parents) and indebtedness to self (I-Self). Indebtedness to parents originates from failure to fulfill one's filial obligations by repaying one's parents for their devotion and sacrifice (Kang & Larson, 2014), whereas indebtedness to oneself is derived from inadequacies in perfecting one's character toward the ultimate goal of being a virtuous person. Both types of indebtedness tend to create a context for psychosocial disequilibrium that one must resolve. However, given that academic achievement is deemed as obligatory, the only way to "escape" from the unpleasant emotions is to persist and perform better academically. Thus, I-Parents and I-Self, as negative activating emotions, provide a driving force for students to work harder after failure. Furthermore, Fwu et al. (2018) found that because academic achievement, an obligatory goal, is based on parental expectations, academic failure will

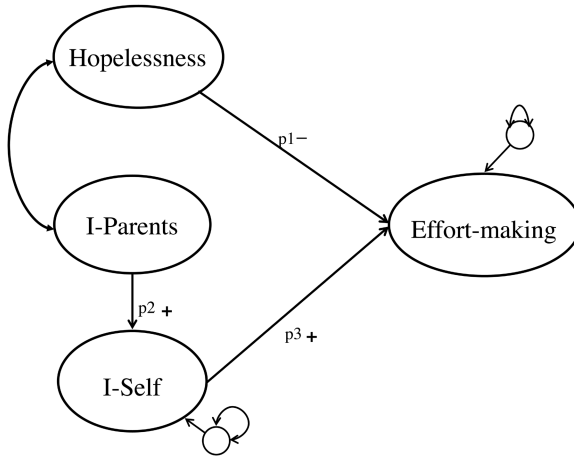


Figure 1.1 The proposed model

first trigger feelings of indebtedness to parents, rather than those of indebtedness to self. According to ROT, only when people fulfill their filial obligations can they perfect their character. Failure to do so may instill feelings of indebtedness toward their parents and toward themselves. Such feelings may motivate them to work harder to achieve better academic performance in the next round. Thus, we assume that I-Parents precedes I-Self and that I-Self leads to effort-making. Thus, we hypothesized that

- Path 2: I-Parents positively predicts I-Self.
- Path 3: I-Self positively predicts effort-making.

In summary, while hopelessness may discourage students from working hard, indebtedness tends to motivate them to persist, thus providing a pull and push force to invest more effort. Both deactivating and activating emotions tend to create a conflicting situation for failing students who are deciding whether or not to work hard in the next round. Figure 1.1 depicts the model, which consists of three paths from negative emotions to action.

## Method

### *Participants and procedures*

A total of 636 tenth-grade students were recruited from four senior high schools in the Taipei metropolitan area in northern Taiwan, where academic achievement is generally viewed as an obligatory goal for high school students. School-wide midterm and final examinations are viewed as pivotal in demonstrating students' achievement. Students are likely to take these examinations seriously. Data collection occurred a week before final

examinations to gather the following: Their recollections on unsatisfactory performance in a subject on a midterm examination, their emotions about their performance and their amount of effort in preparing for the upcoming final examination on the subject. The questionnaires were administered to students on a voluntary basis, and they were assured that their responses would be kept confidential.

### *Measures*

Based on students' recollections of the least satisfactory performance among various subjects on the midterm examinations, they were asked to respond to 12 items rated on a Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). The response items were divided into the following five parts.

#### *Assessment of failure*

Subjective perception of failure referred to participants' assessment of the degree of failure of the least satisfactory performance. To select those who subjectively took the unsatisfactory performance seriously as a failure, we selected those who scored the item "Do you think your grade on the midterm examination in the subject was a failure?" as 4 or above on a scale of 1 (absolutely not a failure) to 6 (absolutely a failure) (Tao & Hong, 2014).

Hopelessness referred to negative deactivating emotions after academic failure. It was measured by three items taken from the Scale of Academic Emotions (Lin & Cherng, 2012; Pekrun et al., 2005): "Because I've given up, I don't have energy to go to class", "It's pointless to prepare for class since I don't understand the material anyway" and "I have lost all hope of understanding the material in this class".

I-Parents was defined as negative emotion related to failing to fulfill one's filial obligations. It was measured with three items adapted from the Scale of Indebtedness Toward Parents (Chiu, 2011; Fwu et al., 2018), as follows: Because of unsatisfactory performance, "I let my parents down", "I failed to meet my parents' expectations" and "I felt I owed my parents an apology".

I-Self was defined as unpleasant emotion related to failing to study hard to cultivate one's character. It was measured with three items adapted from the Scale of Indebtedness Toward Self (Chiu, 2011; Fwu et al., 2018), which were as follows: Because of unsatisfactory performance, "I felt I owed myself an apology", "I was disappointed with myself" and "I felt guilty for not fulfilling my duty (nei jiu)".

Effort-making referred to the intensity of the time or energy used after an academic setback to pursue academic achievement and the persistence in that endeavor before the upcoming final examination. It was assessed with three items adapted from Fwu et al. (2018), which were as follows: To prepare for the upcoming final examination, "I have reviewed what was taught

in class”, “I have put more energy into this subject than last time” and “I have done more practice on this subject than last time”.

### *Data prescreening and statistical analysis*

Among the 636 participants, 166 participants were excluded, as follows: 134 students who did not view their performance as failures (three or below on the scale) and 32 students with missing values on the major variables. After exclusions, the sample size was 470, with 263 boys and 207 girls. The average ages of the boys and girls were 15.59 (SD = 0.54) and 15.50 (SD = 0.53), respectively.

## **Results**

### *Descriptive statistics and correlations*

Table 1.1 presents descriptive statistics. Since the value of skewness was less than 3 and the kurtosis value was less than ten, the data did not deviate far from normal distribution (Kline, 2011), thus meeting the assumptions for maximum likelihood estimation in structural equation modeling (Hair, Black, Babin, & Anderson, 2010). Table 1.2 presents inter-correlations among all the variables.

### *Confirmatory factor analysis (CFA)*

To examine the relations among items and constructs, CFA with a four-factor model was conducted. Figure 1.2 presents the CFA results. The fit to the data was good. The fitness of the four-factor model was acceptable,  $\chi^2(48) = 118.71$ ,  $p < .0001$ , comparative fit index (CFI) = .981, root mean square error of approximation (RMSEA) = .056, standardized root mean squared residual (SRMR) = .039 (Browne & Cudeck, 1993; Fan & Sivo, 2007;

Table 1.1 Descriptive statistics for variables

<i>Variable</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Skewness</i>	<i>Kurtosis</i>
Hopelessness_give up	1.97	1.20	1.31	1.34
Hopelessness_pointless to prepare	1.59	0.96	2.07	5.05
Hopelessness_lose hope	1.85	1.21	1.66	2.41
I-Parents_let down	3.74	1.62	-0.11	-1.09
I-Parents_apology	3.50	1.55	0.08	-0.94
I-Parents_expectation	3.81	1.58	-0.18	-1.00
I-Self_disappoint	4.48	1.32	-0.74	0.04
I-Self_apology	4.29	1.33	-0.47	-0.41
I-Self_nei jiu	4.26	1.34	-0.47	-0.51
Effort-making_review	4.31	1.27	-0.48	-0.29
Effort-making_energy	4.51	1.21	-0.64	0.07
Effort-making_practice	4.26	1.30	-0.49	-0.31

Table 1.2 Inter-correlations among all variables

	1	2	3	4	5	6	7	8	9	10	11	12
1 Hopelessness_ give up												
2 Hopelessness_ pointless to prepare	0.65 **											
3 Hopelessness_ lose hope	0.60 **	0.57 **										
4 I-Parents_let down	0.13 **	0.07	0.17 **									
5 I-Parents_ apology	0.18 **	0.08	0.18 **	0.78 **								
6 I-Parents_ expectation	0.12 **	0.04	0.14 **	0.89 **	0.81 **							
7 I-Self_ disappoint	-0.01	-0.04	0.00	0.42 **	0.47 **	0.42 **						
8 I-Self_apology	0.01	-0.06	-0.02	0.41 **	0.50 **	0.41 **	0.68 **					
9 I-Self_nei jiu	0.02	-0.08	0.01	0.40 **	0.51 **	0.41 **	0.71 **	0.85 **				
10 Effort-making_ review	-0.14 **	-0.17 **	-0.12 *	0.11 *	0.15 **	0.11 *	0.20 **	0.27 **	0.30 **			
11 Effort-making_ energy	-0.23 **	-0.20 **	-0.14 **	0.12 *	0.15 **	0.15 **	0.23 **	0.21 **	0.25 **	0.65 **		
12 Effort-making_ practice	-0.15 **	-0.14 **	-0.13 **	0.11 *	0.15 **	0.10 *	0.20 **	0.21 **	0.24 **	0.64 **	0.79 **	

\*  $p < .05$ ;\*\*  $p < .01$

Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999). Moreover, the overall measurement model fit was good. The intercorrelations among these four factors were not very high (ranging from  $-.03$  to  $.51$ ), indicating that these factors were different in nature (discriminant validity). The item loadings of each factor (ranging from  $.73$  to  $.95$ ) and the Cronbach's alpha reliabilities of each factor (ranging from  $.82$  to  $.93$ ) were rather high, indicating that each item represented the factor well.

### Structural equation modeling

Structural equation modeling was used to test the proposed relations among hopelessness, I-Parents, I-Self and effort-making (see Figure 1.1). The results showed that the proposed model in Figure 1.2 provides a good fit to the data ( $\chi^2(50) = 125.07, p < .001, CFI = .980, RMSEA = .057, SRMR = .049$ ). The estimated standard errors of parameters for the model were in the range of  $.008$  to  $.049$ .

Figure 1.3 shows that hopelessness negatively predicted effort-making ( $\beta = -.24, p < .01$ ). I-Parents positively predicted I-Self ( $\beta = .51, p < .01$ ), which subsequently positively predicted effort-making ( $\beta = .31, p < .01$ ). The correlation between the factor Hopelessness and the factor I-Parents was  $.15 (p < .01)$ .

### Summary and discussion

In summary, we found that, first, hopelessness is negatively correlated with effort-making; it discourages individuals from trying again after failure. Second, indebtedness to parents triggers indebtedness to self, which motivates subsequent effort-making. Thus, Taiwanese students face conflicting deactivating (hopelessness) and activating (indebtedness) emotions following academic failures. Consequently, they are trapped in a predicament: whether to work hard or not. The theoretical significance and practical implications are discussed as follows.

Error	Observed Variables	Loading	$\alpha$	Factors	Hopelessness	I-Parents	I-Self	Effort-making
.32**	Hopelessness_give up	.83**	.82	Hopelessness	-			
.38**	Hopelessness_pointless to prepare	.78**						
.47**	Hopelessness_lose hope	.73**						
.14**	I-Parents_let down	.93**	.93	I-Parents	.16**	-		
.28**	I-Parents_apology	.85**						
.09**	I-Parents_expectation	.95**						
.42**	I-Self_disappoint	.76**	.90	I-Self	-.03	.51**	-	
.18**	I-Self_apology	.90**						
.12**	I-Self_nei jiu	.94**						
.46**	Effort-making_review	.73**	.87	Effort-making	-.25**	.16**	.30**	-
.19**	Effort-making_energy	.90**						
.24**	Effort-making_practice	.87**						

Figure 1.2 Standardized results of confirmatory factor analysis

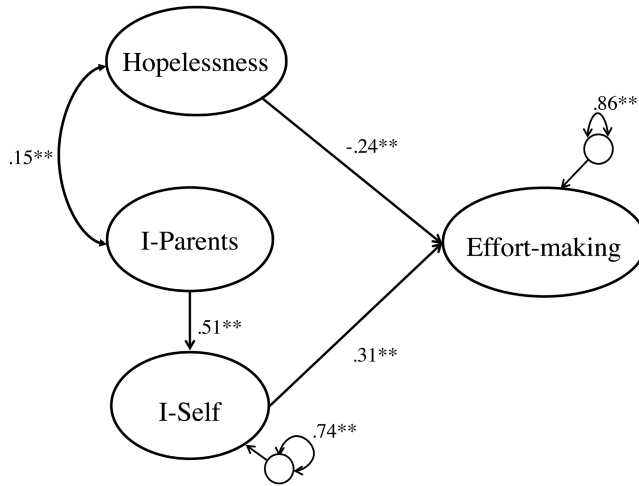


Figure 1.3 Final model

### ***Self-malleability versus role obligations of self-cultivation***

While Dweck (2006) suggests that the self is malleable and can be improved, we advocate that in CHCs, improvement is not only possible but also obligatory. East Asians view bettering oneself as a lifelong process of self-cultivation to fulfill one's obligations to one's parents. Such belief in the obligations tends to strengthen individuals' motivation for constantly improving their negative attributes and aspects through corrective actions.

In the school setting, academic failure not only means that students did not do their schoolwork well, it also implies that they have failed to fulfill their obligations (Tao & Hong, 2014). Academic failure instills in these students feelings of indebtedness toward their parents and themselves, which in turn drive them to make efforts to correct the weaknesses and inadequacies of their school work. A previous study found that students who feel indebted toward their parents and themselves will increase their effort after academic failure (Fwu et al., 2018). The current study supports this previous finding and further explains students' persistence after failure from the perspective of ROT. This study also supports that, for high school students, the sequence of the effects is such that I-Parents may arise first, and I-Self, second. The results show that only when students' feelings of indebtedness toward parents are linked with their indebtedness to the self will they be motivated to work harder after academic failure.

### ***Intra-personal conflict of negative emotions***

Pekrun's (Pekrun et al., 2005, 2007) spectrum of academic emotions, such as joy, pride, hopelessness and shame, can be understood from an individualist

perspective. For example, pride is primarily an emotional response to one's own accomplishments, and hopelessness mainly refers to a feeling of one's loss of control and lack of hope for success. However, this study proposes a relationally oriented type of negative emotion, feelings of indebtedness, based on the role ethics in CHCs. Such feelings are closely related to failure to fulfill one's role obligations toward parents in the cardinal ethical relationship and failure to cultivate and perfect oneself as an ideal virtuous person. This feeling of indebtedness is derived from one's inadequacy in achieving the unreachable ultimate goal of being an "ideal" virtuous person. As the goal is regarded as obligatory due to its essentiality in the cardinal relationship, giving up on the effort is impossible and unacceptable. One can do nothing but constantly strive to achieve this "unreachable goal" through endless effort. In a school setting, constant effort to pursue academic excellence is an indication of fulfilling one's obligation to strive toward this goal, thus creating a conflict for Asian students in academic learning.

Furthermore, Pekrun (2016) explores negative emotions after academic failure from the perspective of retrospective/prospective and activating/deactivating aspects. If students retrospectively attribute their failure to internal factors such as lack of ability and effort, activating emotions such as shame can be induced, triggering persistence (Pekrun, 2006; Pekrun & Stephens, 2010). When students foresee their future performance as uncontrollable, deactivating emotions such as hopelessness will be aroused, reducing their motivation to make further effort. Our study found that when students reflected upon their academic failure, they felt indebted to parents and self due to their failure to fulfill their obligations. The feeling of indebtedness serves as a retrospective activating emotion that prompts them to study harder. On the other hand, when they predict their future academic performance, they may attribute their failure to uncontrollable factors such as lack of ability and thus tend to feel hopeless. The feeling of hopelessness functions as a prospective deactivating emotion that discourages students from trying to do well.

In this way, the retrospective/activating and prospective/deactivating emotions co-exist, thus creating intra-personal conflicts for students, who must choose whether or not to study hard for the next round of examinations. Such conflicting emotions may provide an explanation for why Asian students are subjected to psychological distress due to academic stress. Research has shown that adolescents from Confucian countries suffer from more psychological problems, such as lower self-image (Lee, 2009; Morony, Kleitman, Lee, & Stankov, 2013), higher levels of depression and lower levels of life satisfaction (Stankov, 2013), than do their international counterparts. Our study suggests that such psychological distress may be related to the conflicting emotions of retrospective/activating indebtedness and prospective/deactivating hopelessness. After academic failure, students are often trapped in a struggle between working hard due to indebtedness to fulfill duties and feeling hopeless that their efforts will be in vain. Such

a predicament may intensify their psychological distress arising from academic stress.

### ***Productive use of negative emotions***

Our findings also provide practical implications for teachers and parents. The first is that emotions can have a strong influence on learning and achievement. Therefore, it is important for teachers and parents to understand and to deal with the emotions experienced by students. Second, negative emotions can be productive if they are properly used to promote learning. Teachers and parents may encourage their children to take advantage of their negative emotions, specifically the feeling of indebtedness, to reflect upon if they have studied “hard” enough to fulfill their dual duties. They may also help their children to deal with the feelings of hopelessness by raising students’ confidence in their ability to solve problems and focusing their goals on mastering the learning material. Teachers may help students to locate their inadequacies and weaknesses in their schoolwork and instruct them to study “smart” by adopting effective learning strategies and study skills to improve their academic performance. In this way, the negative emotions after academic failure may provide a golden opportunity for students to learn to study both “hard” and “smart” for future academic success.

### ***Limitations and future research***

The present research has several limitations. First, the sample consisted of only high school students in the Taipei metropolitan area of northern Taiwan. Future work with samples in other educational levels and geographic regions of Taiwan, as well as in other CHCs, is needed to assess the generalizability of the results. Second, our study only examined the link between negative emotions and subsequent effort in academic learning, which is deemed an obligatory goal for students in Taiwan. It is not clear if such a pattern holds for other pursuits, such as the arts and sports, which are less often viewed as obligatory for Taiwanese students. It is advisable to examine if the link between emotions and effort exists in non-academic domains. Third, our study found that after academic failure, students are trapped in a predicament of having to decide whether to work hard or not. It would be worthwhile to explore who quits and who persists. Future research may examine if beliefs about malleability and one’s obligation to change traits and qualities play a role in students’ attribution, emotions and persistent behaviors.

### **Conclusion**

The current study provides new insights into the role of negative feelings after academic failure in subsequent motivation from a cultural perspective. Traditional motivation theories, having primarily originated from WEIRD

(Western, educated, industrialized, rich, democratic) societies, have largely ignored the cultural backdrops of educational processes (Henrich, Heine, & Norenzayan, 2010; King & McInerney, 2016). Many non-Western scholars have found these mainstream motivation theories to be irrelevant and inappropriate for understanding local populations (Hau & Ho, 2010). Therefore, there is a need to utilize the bottom-up approach to complement the dominant discourse (King & McInerney, 2016). One way to do so is to adopt an empirically driven and culturally inclusive approach, proposed by Hwang (2015), which emphasizes the theorization of social phenomena from a cultural systems perspective. Hence, we propose the ROT as a culturally relevant framework for understanding student motivation in Confucian heritage societies. We found that ROT provides a culturally relevant explanation for why Taiwanese students appear to be trapped in a predicament of whether to work hard or not. This dilemma is accompanied by conflicting emotions of hopelessness and indebtedness following academic failures.

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