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Students' competitiveness: motivation or fear?

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ABSTRACT

This study aimed to explore the factors that contribute to the high level of competitiveness among students in the People's Republic of China (PRC). The expectancy value theory has suggested that the fear of failure (FOF) and a highly perceived value for achievement (expectancy value belief (EVB)) are the key drivers of competitiveness. To examine this theory, the study analyzed data from 969 college students in the PRC using Bootstrap Analysis with 5,000 samples in a 95% confidence interval. The study found that while the value placed on academic achievement did motivate students to fear failure and become more competitive, perceived social support played a significant role in moderating this relationship. Specifically, the students' perception of social support moderated the mediation of (FOF) on the link between EVB and competitiveness. These findings suggest that social support is a crucial factor in shaping the dynamics of competitiveness among PRC students. The study may have implications for educators and policymakers seeking to promote healthy competition and academic achievement in highly competitive education systems.

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1. INTRODUCTION

Studies have reported high competitiveness among students in the school system in the People's Republic of China (PRC) [1], [2] and it is even substantiated by the overpopulation and perceived limitation of natural resources [3]. While the socio-demographic elements can be taken as the factor of the competitiveness among students from PRC, it is also noticed that the competitiveness levels among them is also varied, or in other words, the competitiveness levels among the PRC students are not uniformed from one another, although they can be considered more competitive than students from other countries, especially from the western culture [4].

a. Expectancy value beliefs and the importance of competitiveness in PRC

One of the factors that predicts competitiveness among students is expectancy value beliefs (EVB); it refers to the beliefs and attitudes that individuals hold about their own abilities and the value they place on a task or activity. Contextually, college students who believe that their study is important and valuable, they would likely to be more motivated to learn [5]. According to the expectancy-value theory, individuals are motivated to engage in activities when they believe they are capable of doing so and that the activity is valuable enough to pay the effort to [6]. Eventually, the belief that a goal is achievable yet valuable contributed to one's motivation in being better than other individuals with the same goals [7]. While competitiveness is prevalent

among dispositionally high achieving and motivated college students [8], higher prevalence was discovered in Asian countries, especially in PRC [9], In the context of PRC, competitiveness in is cultural and passed down from one generation to the next [10]. The involvement of parents increased the expectancy values and the academic competitiveness [11]. In the PRC, academic achievement is greatly esteemed due to the implementation of the one-child only policy, which limits the number of children a family can have. This policy has resulted in a highly competitive environment among school children, where opportunities for education and career are highly valued due to the perceived scarcity of resources.

As a result, students in the PRC exhibit greater levels of competitiveness compared to their counterparts in other countries. Furthermore, the one-child only policy has incentivized parents to become more involved in the academic lives of their children [12], and increase thesignificance of the child's academic achievement from the child's concern into the family concern, as a son is the continuing agent of their family name. This, eventually, significantly affect the value of the expectancy of not only the children, but also their parents [3]. Growing up as 'the only hope' of their parents, students in PRC carry significantly high parental expectancy on their shoulders [4] and tend to be more competitive; they see other children as their competitors in acquiring academic excellence and successful careers in the future [13]. In other words, their high EVB, as the combination of their parents' and their own, would likely to transform them to be tough competitors for one leading to a further intensification of the academic competition among students in the PRC [14]. As the current college students in PRC are the products of the one-child policy by the PRC government, their parents develop high expectancy toward their child, and most likely to pass on their EVB to the children, together with their value system. The EVB of the young generation of PRC is also amplified by the fact that their nation is aging rapidly as their industrial demand is significantly lower than the abilities of educational institutions to graduate worker candidates [15]. While this situation might seem to have positive impact on PRC's national competitiveness [9], the competition within PRC's own children is getting more intense and the fear of losing the competition is becoming more apparent; therefore, investigating the further effect of the fear of being failed in the competition on the competitiveness itself is another important work to do. While individuals from other places might observe that being competitive is a prevalent trait among students from PRC, being 'more competitive' than the rest is highly important among the PRC students and their parents [13], [16]. Thus, it is important in PRC, and also everywhere else, to identify the factors of competitiveness as well as the dynamics of those factors in forming the academic competitiveness among students.

b. Fear of failure as a suppressor

As aforementioned, the higher individuals value their tasks, the higher they would fear to fail. While it is logical and evident that high EVB positively predicts competitiveness [17], the actual connection between the fear of failure (FOF) and competitiveness was reported to be more complex [18] and can be explained by the self-determination theory [19]; the belief in the EVB of education or the quality life in the future can lead to a higher sense of competence and motivation, and a lower FOF. This, in turn, can lead to a higher level of competitiveness, as individuals strive to achieve their goals and prove their abilities individuals are motivated to engage in activities that satisfy three basic psychological needs: autonomy, competence, and relatedness. Autonomy refers to the need to feel in control of one's own life and decisions, competence refers to the need to feel capable and effective in one's actions, and relatedness refers to the need to feel connected to others and a sense of belonging. In other words, the self-determination theory supported the hypothesis that the FOF might mediate the association between the EVB and competitiveness. Nevertheless, the aforementioned literature suggested that EVB might positively predict Competitiveness, while negatively predicts FOF, which negatively predicts competitiveness. Therefore, as the inclusion of FOF in the calculation might weaken the positive contribution of EVB on competitiveness, FOF is considered as a suppressor variable, instead of a mediator variable. The hypothetical model is illustrated in Figure 1. Furthermore, knowledge on the significance of the suppressing effect of FOF on the link between EVB and FOF is highly important as it might provide educational stakeholders accurate information to prepare any intervention that might improve and sustain adaptive competitiveness among students.

c. Perceived social support as the first moderator

In a country like PRC, where overpopulation drove the competition within their own citizens intense and tough, the belief that one is being supported might play a significant role in keeping individuals believe in the meaning of their existence to others [20]. The perceived social support (PSS) might play more significant role than the actual received social support [21], especially when the actual support is not immediately available. PSS refers to individuals' beliefs about the availability and adequacy of social support determine their overall well-being and coping abilities. The theory of PSS [22] posits that PSS is more important than actual social support received, as individuals may perceive the support, they receive differently than what is actually received. The theory also elucidated that the PSS can come from different sources, including family, friends, coworkers, and community members. When individuals develop a PSS, they may have a greater sense of control over their lives [23], which can lead to increased self-esteem and lower levels of anxiety and depression. The theory also suggests that the type of support needed may vary depending on the situation. For example,

emotional support may be more helpful during times of stress, whereas informational support may be more helpful when making a difficult decision. In the context of our study, PSS refers to the students' perception that they are supported by their inner circles, such as parents, friends, classmates, and educators. Accordingly, it was reported that PSS works well in the intervention of motivation and fear of making mistakes, which can also be interpreted as PSS interact with EVB in refuting the FOF [24]. In the context of PRC, it was reported that PSS protected individuals form losing hopes and perception of subjective unwellness during difficult time [25]. In other words, the individuals who have developed FOF due to tough conditions, would less likely to lose their hope in achieving their goals of taking part in the life competition when they believe they are socially supported [26]. The aforementioned reports led us to include the PSS as a moderator of the path a, b and path c in the previous mediation hypothesis as shown in Figure 2.

d. Perfectionism as the second moderator

Additionally, it is also reported that perfectionism is one of the traditional traits among students from PRC that has been reported averagely higher than students from other countries [27]. It has been reported that the parents in PRC have a tendency to expect excellence from their offspring from a young age [2]. This expectation is grounded in the belief that high standards of achievement are necessary to succeed in the competitive job market and accumulate wealth in the future [28]. While adaptive perfectionism trait can be a protective factor against negative academic behaviors such as procrastination [29], or serve as a predictor for positive qualities such as a sense of mattering [30], it can also be maladaptive and promote the development of adverse traits, such as FOF [31]. The trait of perfectionism, in any form, may interact with EVB and alter its contribution on the development of the academic performance-related FOF. For instance, students who hold the belief that their academic achievements are of great worth and also possess a trait of perfectionism would likely prepare diligently for perceived competition, and with the assumption of perfect preparation, would be less prone to developing FOF.

The aforementioned studies have brought us to further hypothesis by including the perfectionism as the second moderator. The reason was because while it might interact with EVB in predicting FOF and competitiveness, it does not predict or predicted by EVB [6]. The inclusion of perfectionism in our moderated mediation is illustrated in Figure 3. The conceptualization of the Figure 3 is that we hypothesized that PRC students who possess higher trait perfectionism would likely to have their high valuation on academic strongly predict their fear that they might fail or make mistake in their academic endeavor; nonetheless, if they perceive that their parents, teachers, and friends, supported them socially, their fear would likely to be weaker, and in turn, they turn to develop a stronger competitiveness. This current study is conducted in order to test the aforementioned hypothesis.

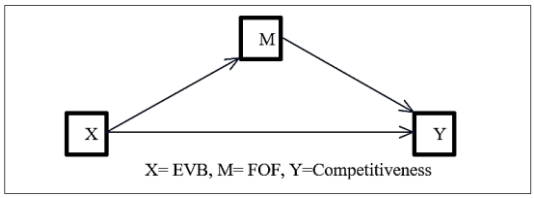

Figure 1. The mediation model of FOF on the association between EVB and competitiveness

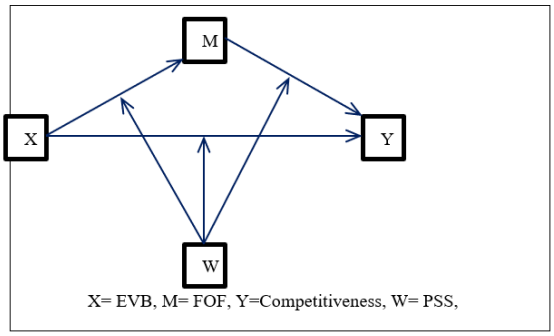

Figure 2. The moderated mediation hypothethical model

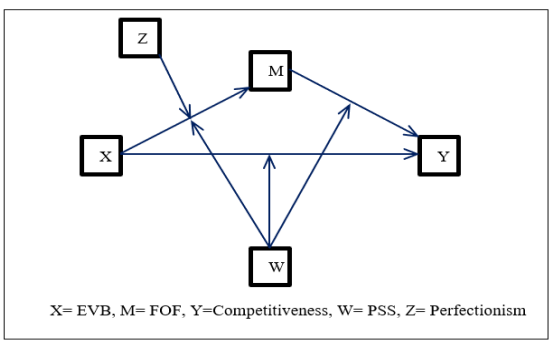

Figure 3. The moderated mediation model with two moderators

2. METHOD

2.1. Participants

Based on the Krejcie and Morgan Table [32], we decided that our sample size should be minimum 384, as our population size is higher than 100,000 for 95% confidence level with a 5% margin of error. To make the results of our study more accurate, 969 participants were purposively recruited with inclusion criteria as follows; they must be students in Chinese colleges or universities, living in PRC, and have spent at least their last 5 years in PRC. The recruitment was conducted online through social media WeChat.

2.2. Data collection measures

PSS was measured using the Chinese version of the multi-dimension scale of perceived social support (MSPSS) [33]. The scale contains 12 items which were answered using a 7-point Likert-type scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). In the current study, Cronbach's alpha was .917 for the bilingual version of this scale. FOF was measured by employing the Chinese version of the performance failure appraisal inventory (PFAI) [34]. The PFAI contains 25, which were the participants must provide their respond based on a 5-point Likert- type scale ranging from 1 (do not believe at all) to 5 (believe 100% of the time). A higher score indicates a higher level of FOF. In the current study, the reliability was shown by the Cronbach's alpha of 0.941. EVB was assessed using the Chinese version of the subscale of motivated strategy for learning questionnaire (MSLQ) [35]. The subscale of MSLQ was selected because it shared the basis expectancy value theory construct with expectancy-value beliefs. It contains 14 items, which were to be responded through a 7-point rating scale (1=not at all true of me; 7=very true of me). In the current study, Cronbachs was 0.898.

2.3. Data collection procedures

The participants were recruited through purposive snowball sampling with the aforementioned inclusion criteria. All the demographic questionnaires and the related scales were back-translated to Mandarin. Then, those were distributed in the bilingual format through Baidu Wenku, the Chinese counterpart of Google Forms, where the participants' responds were gathered and analyzed.

2.4. Data analyses

Bootstrap method with 5,000 samples and a 95% confidence interval was utilized to analyze the data. The method involves repeatedly sampling from the original data set to obtain a distribution of estimates, allowing for the estimation of sampling variability and the generation of more accurate CIs. This method was chosen as it does not require the assumption tests as in the multiple regression and Sobel Test. Additionally, a 95% CI is used as it allows for a high degree of confidence in the results while still being conservative in terms of Type I error rates [36]. PROCESS Macro model 63 for SPSS 26 was used to execute the test of the moderated mediation hypothesis illustrated in Figure 2.

3. RESULTS AND DISCUSSION

3.1. Path a: FOF as the outcome variables

The Tables 1 and 2 depict the results of analysis of path a, where FOF is the outcome, while EVB, PSS and Perfectionism are the predictors. As can be seen in Table 1 and Table 2, EVB and PSS do not significantly predict FOF, either on their own or interacting with each other. On the other hand, perfectionism significantly predicts FOF, with the coefficient value of 0.019, which means that when the perfectionism is higher by 1 point, the FOF would likely to be higher by 0.019 point. A weak contribution was shown, but it is significant nevertheless, with $p<0.001$.

Table 1. Model summary

R	R-sq	MSE	F	df1	df2	p
4966	0.2466	0.4112	63.0554	5.0000	963	0.0000

Table 2. Model

Model	coeff	se	t	p	LLCI	ULCI
Constant	1.2395	0. 6236	1.9876	0.9876	0.0157	2.4632
EVB	-0.0796	1432	5559	0.5784	-0.3605	0.2013
PSS	0.0611	0.0738	8278	0.4080	0837	0.2059
EVBxPSS	0.0182	0164	1.1114	0.2667	0503	0.0139
Perf**	0.0185	0.0046	4.0094	0.0001	0.0094	0.0275
EVBxPerf	0.0002	0.0010	.1817	0.8558	0018	0.0022

3.2. Competitiveness as the outcome variable

Tables 3 and 4 portray the results total effect of EVB and FOF, as well as their interaction with PSS and perfectionism. Table 3 indicated that the total effect of EVB on Competititveness without including the other variables in the equation was significant with $p<0.001$ and the prevalence of 0.25. Table 4 suggested EVB, FOF, and perfectionism are the significant predictor of competitiveness, as well as their interaction with perfectionism, as perfectionism alone is reported as a significant predictor of competitiveness ($p<0.05$).

Table 3. Model summary

R	R-sq	MSE	F	df1	df2	p
4966	0.245	0.90.57	44.65	7.00	961.00	0.000

Table 4. The interaction between the moderators and the predictor in contributing to the outcome

Model	coeff	se	t	p	LLCI	ULCI
Constant	23.6239	.10.3891	2.2739	0.0232	3.2360	44.0119
EVB**	5.6168	2.1268	2.6410	0.0084	1.4431	9.7906
FOF**	-4.5221	1.8039	-2.5068	0.0123	-8.0621	-0.9820
PSS	-1.9338	1.5897	1.2165	0.2241	-5.0535	1.1859
EVBxPSS	0.2825	2474	1.1417	0.2538	-0.2031	0.7681
FOFxPSS	0.2047	0.3349	0.6114	0.5411	-0.4524	0.8619
Perf**	0.3078	0.0700	4.3959	0.0000	0.1704	4452
EVBxPerf*	-0.0317	0.0155	0.0409	0.0409	-0.0621	-0.0013

3.3. Conditional and direct and indirect effect of EVB on competitiveness

In Table 5, the conditional direct effect of the focal predictor (EVB) at different values of each moderator to indicate whether the mediation effect is moderated. As seen in Table 5, the link between EVB and Competitiveness is significant at every level of PSSand perfectionism. In other words, EVB is a robust significant predictor of competitiveness, regardless the levels of both moderators. The results of of the moderated mediaton hypothesis testing, in the form of conditional indirect effect are depicted in the following Table 6. As seen in Table 6, the mediation of FOF on the association between EVB and competitiveness occurred significantly at every level of PSS and perfectionism. As the conditional direct effect of EVB on competitiveness was also significant at every moderator's level, the mediation effect of FOF can be considered partial, and not moderated.

Table 5. Conditional direct effects of the focal predictor at values of the moderator(s)

PSS	Perf	Effect	se	t	p	LLCI	ULCI
4.1818	89.0000	3.9747	0.4991	7.9643	0.0000	2.9953	4.9541
4.1818	106.0000	.3.4354	0.4269	8.0477	0.0000	2.5977	4.2731
4.1818	121.0000	2.9595	0.4884	6.0595	0.0000	2.0010	3.9180
5.2727	89.0000	4.2829	0.4211	10.1707	0.0000	3.4565	5.1093
5.2727	106.0000	3.7436	0.3349	11.1789	0.0000	3.0864	4.4008
5.2727	121.0000	3.2677	0.4122	7.9271	0.0000	2.4588	4.0767
6.5455	89.0000	4.6425	0.5271	8.8078	0.0000	3.6081	5.6769
6.5455	106.0000	4.1032	0.4632	8.8579	0.0000	3.1941	5.0122
6.5455	121.0000	3.6273	0.5235	6.9288	0.0000	2.5999	4.6546

Table 6. the indirect effect from EVB→ FOF→ Competitiveness at different level of each moderator

PSS	Perf	Effect	BootSE	BootLLCI	BootULCI
4.1818	89.0000	5099	0.1762	0.1806	0.8670
4.1818	106.0000	0.4983	0.1679	0.1755	0.8374
4.1818	121.0000	0.4880	1871	0.1265	0.8706
5.2727	89.0000	0.5472	0.1312	0.3092	0.8152
5.2727	106.0000	0.5362	0.1191	0.3163	0.7826
5.2727	121.0000	0.5266	0.1400	0.2654	0.8122
6.5455	89.0000	0.5794	0.1895	0.2503	0.9836
6.5455	106.0000	0.5694	0.1781	0.2550	0.9478
6.5455	121.0000	0.5605	1875	0.2321	0.9515

3.4. Discussion

The present study aimed to explore the relationship between FOF, performance-based self-worth, or EVB, perfectionism, PSS, and competitiveness among college students in the PRC. Our results indicated that

FOF partially mediated the relationship between EVB and competitiveness. However, the moderated mediation hypothesis was not supported, as both moderators, PSS and perfectionism, did not alter the significance of the mediation effect of FOF. Additionally, perfectionism was found to interact with EVB in predicting FOF (path a), suggesting that perfectionist students who value their education positively are less likely to be afraid to fail and tend to be even more competitive than other students in PRC who have been globally known as competitive.

Our results must be interpreted in light of its limitations. First, the data collection was based on self-report measures, which may have led to response bias or social desirability bias. Secondly, the study used a cross-sectional design, which limits the ability to establish causality between variables. Additionally, as all the participants were college students from the PRC, the findings may not be generalizable to other populations.

4. CONCLUSION

As a conclusion, our findings imply that the college students from PRC who are perfectionist and giving high values to academic achievement would likely to be less afraid of making mistakes and be more academically competitive; regardless they feel socially supported or not. Therefore, educational stakeholders might be able to harness their perfectionism, while providing intervention to improve and maintain their expectancy value levels.

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