



The Impact of College Student Characteristics' upon the Four Dimensions of Academic Self-Efficacy

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Abstract

Academic self-efficacy has been linked to the context of student academic skill sets and belief in mastering their academic subjects which has been suggested to be a significant predictor of academic performance. The goal of our study is to help identify the relative impact of various college student characteristics such as academic behaviors (i.e.: number of incomplete grades or academic withdrawals taken, hours of studying), and pre-existing personality traits (i.e.: grit and coping styles) upon academic self-efficacy dimensions. One hundred college students were surveyed, and results showed that active coping and perseverance of effort, which is a component of grit, had the largest effect on all dimensions of academic self-efficacy. We also discuss how students who seek an increasing amount of incomplete grades or academic withdrawals during their academic career can have a significant reduction of school-work-life balance. Based on our findings and existing research, we discuss providing limits to the number of incomplete grades and withdrawals an undergraduate student can request during the length of their academic career along with counseling recommendations for incoming college students to aid them in developing high academic self-efficacy.

Keywords: Academic, Self-Efficacy, Educational Psychology, Influence, Cognitive Ability

Introduction

The academic experience varies for each college student. There can be a large set of pre-existing factors (i.e. study habits) and current concerns (i.e. balancing work obligations and school work) that contribute towards the student's academic success or academic struggles. One of the areas of educational psychology research has focused on is self-efficacy in the context of college students' development of their academic skills and competency. Previous research has defined general self-efficacy as part of the confidence level and mastery that individuals have in their ability to execute courses of actions to attain specific performance outcomes (Bandura, 1997). Personal efficacy expectations are proposed to influence initiating behavior, how much effort will be applied to attain an outcome, and the level of persistence applied to the task in the face of difficulties and setbacks (Bandura, 1997).

Academic self-efficacy

On the other hand, academic self-efficacy is specific to the context of student academic skills and focuses on a student's belief about themselves regarding academic tasks. Academic self-efficacy is defined by Chemers and colleagues (2001, p. 56) as "students' confidence in mastering academic subjects." Previous studies have demonstrated that college students' academic self-efficacy beliefs have been shown to be significant predictors of their academic performance and persistence (Gore, 2006; Lane & Lane, 2001; Robbins, et al., 2004), along with their grade point average (GPA) (Robbins et al., 2004) even more than accounted for by more traditional predictors of academic achievement such as the college student's cognitive ability (Zuffianò et al., 2013).

In contrast to the previous one-dimensional conceptualization of academic self-efficacy (Chemers, et al, 2001), Zajacova, Lynch & Espenshade (2005) identified at least four different domains of academic self-efficacy. They defined academic self-efficacy in the domain of school interactions with behaviors such as asking questions in class, making friends at school, talking to professors, and even understanding college regulations. In the context of academic self-efficacy in the domain of academic performance outside of the classroom, they identified the behaviors of study skills, keeping up with required readings, getting term papers done on time, preparing for exams, improving reading and writing skills, and researching for written assignments. They defined the academic self-efficacy domain of academic performance within the classroom with behaviors such as doing well on exams, managing multiple tests in the same week, and doing well in their most challenging course. Finally, they defined

the academic self-efficacy domain of managing the demands between work, family, and school with behaviors such as managing time efficiently, getting along with family members, and finding time to study (Zajacova, Lynch & Espenshade, 2005). The latter can also be conceptualized as the *school-work-life balance*. This has been especially salient now in the landscape of 21st century higher education because of the significant rise of undergraduate college students who are actively employed while they are concurrently striving towards their academic goals. For example, the United States National Center for Education Statistics (2017) reported that 43% of full-time undergraduate students and 78% of part-time undergraduate students were employed in either full-time or part-time employment.

Grit

Alongside the research literature of academic self-efficacy, there has also been literature on the personality trait of grit and how the amount of grit significantly impacts academic performance.

Grit is a personality trait from the domain of conscientiousness and has been defined as the ability for “perseverance and passion for long-term goals” (Duckworth, Peterson, Matthews, & Kelly, 2007, pg. 1087). Grit has been shown to predict achievement related outcomes in the United States Military Academy and it predicted academic success after controlling for educational ambition and prior achievements (Duckworth, Peterson, Matthews, & Kelly, 2007, Strayhorn, 2013). Previous research has also shown that grit predicts teacher effectiveness (Duckworth et al., 2009), and even the final ranking of participants in the National Spelling Bee (Duckworth et al., 2011). Overall, grit seems to capture extreme motivational stamina for a particular task, which can be either academic or non-academic in nature (Eskreis-Winkler et al., 2014).

Coping Styles

Even as education researchers acknowledge the personality trait of grit as having an impact on a college student's academic performance and persistence, it is also important to acknowledge that earning a college degree is a very stressful period in the lives of college students (Gall et al., 2000; Mallinckrodt, 1988). Therefore, they must also rely on a set of coping strategies in order to manage the academic, personal and work-related stressors that they can experience. Current stress response research literature tends to differentiate two major coping methods: problem-focused coping and emotion-focused coping (Aspinwall & Taylor, 1992). Lenz (2010) defines problem-focused coping as people directly facing and managing the source of the stress in their lives. As an example of problem focused coping, a college student may use the coping skill of planning as a way to properly allocate their personal time and resources to balance their academic requirements (e.g. completing homework, devoting time to study) between courses and even their work-related responsibilities. In contrast, emotion-focused coping is defined by Lenz (2010) as people trying simply managing their emotional response to stress. Aspinwall and Taylor (1992) have even argued that emotion-focused coping is part of a high-level category of avoidant coping, which might be a maladaptive for an individual in the long run. As an example of emotion-focused coping, college students might turn to substance use (ex. alcohol abuse, tobacco use) in order to manage the academic and personal stressors of earning a college degree. Ruthig and colleagues (2011) conducted a study on a sample of college students and found that increases in binge drinking was predictive of the diminishing academic performance among the college women within the sample. However, the sample college men from the study showed that increases in tobacco use was predictive of their diminishing academic performance. Additionally, college students with a disengaged coping style had lower GPAs, reported higher levels of academic stress, and a negative general mood as compared to their peers who did not have a disengaged coping style (Arsenio & Loria, 2014).

In order to systematically measure various problem-focused and emotion-focused coping strategies used by the general population, Carver (1989) developed the psychometrically validated and reliable 60 item COPE Inventory. Litman and Lunsford (2009) used the COPE Inventory to assess a sample of students for any recent significant stressful events in their lives that they had endured and their corresponding well-being after the stressful event. The results of the study indicated that students who used problem-focused coping skills, such as planning, had higher levels of general self-efficacy, as compared to students who had a higher tendency to endorse avoidant-oriented coping strategies. It is important to note that they focused on general self-efficacy of students, but not specifically focusing on their academic self-efficacy after a stressful event. They also did not make a comparison of problem-focused coping skills versus emotion-focused coping strategies for the various dimensions of academic self-efficacy (Litman and Lunsford 2009; Zajacova, Lynch & Espenshade, 2005). Part of the goal of our study is to specifically examine the relative impact of problem-focused and emotion-focused coping strategies on the four differentiated dimensions of academic self-efficacy.

Current study

The key goal of our research study is to help identify the relative impact of various college student characteristics (e.g. number of incomplete grades or academic withdrawals taken by the student, hours of studying, etc.), and pre-existing personality traits (e.g. grit and coping styles) upon the four dimensions of academic self-efficacy as outlined by Zajacova, Lynch & Espenshade (2005). One key assumption of our research study is that the various

college student characteristics and pre-existing personality traits that have been chosen to investigate have some ability to shape the academic self-efficacy of college students. We aim to investigate in an exploratory style what student characteristics, personalities, and coping mechanisms are effective in predicting students' academic self-efficacy, and thereby draw inferences to their academic performance.

Methods

Participants

The participants were a sample 100 college students (mean age = 24 years old, 40 males (40%) enrolled in a university or college located in the United States between 2017-2018. The participants were recruited via the online Amazon Mturk platform and via on-ground upper division psychology courses at a 4-year university located in the Western United States. The online Amazon Mturk participants were rewarded with 1 Amazon credit for participating in the research study. The college enrolled Amazon Mturk participants read an informed consent document and completed the survey online. On the other hand, the upper division on-ground psychology students located in a 4-year university in the Western United States were rewarded by receiving extra credit for their corresponding upper division course where they were enrolled. These on-ground participants read and signed and informed consent form along with completing paper and pencil surveys. All participation in the study was voluntary and all participants had the opportunity to discontinue participation in the survey at any time. As a key inclusion criterion for this study, the college students needed to have finished at least 2 academic semesters at the institution where they are currently enrolled. The ethnic diversity in our sample: Caucasian (30.4%), Asian or Pacific Islander (21.6%), Hispanic or Latino (38.2%), African American (3.9%), Native American or Alaskan Native (2%), and finally Multiracial (2%). On average the participants completed 7 academic semesters, which is equivalent to 3.5 years of college education. Subjects self-reported mean Grade Point Average (GPA) was 3.28. The number of self-reported academic incompletes or withdrawals the taken by participants has the following breakdown: 0 academic incompletes or withdrawals (n = 47, 46.1%), 1 academic incomplete or withdrawal (n = 25, 24.5%), 2 academic incompletes or withdrawals (n = 9, 8.8%), 3 academic incompletes or withdrawals (n = 9, 8.8%), 4 academic incompletes or withdrawals (n = 4, 3.9%), 5 or more academic incompletes or withdrawals (n = 5, 5.2%). It is important to note that the question of academic incompletes or withdrawals were asked in the same question to participants and not asked separately.

Results

Stepwise multiple regression analyses were conducted to identify the relative impact of various college student characteristics and pre-existing personality traits upon the four dimensions of academic self-efficacy. The four dimensions of our criterion variable, academic self-efficacy, were as follows: interaction at school, academic performance in class, academic performance out of class, and managing work-family-school. As argued earlier in the paper, the dimension of managing work-family -school is better conceptualized as school-work-life balance because this label explains the duties of students in academia more accurately in the landscape of the 21st century higher education. The predictor variables entered into the stepwise linear regression analyses were the two domains of grit (consistency of interest and perseverance of effort), problem-focused dimensions of coping (positive reinterpretation and growth, use of instrumental social support, active coping, religious coping, restraint, acceptance, and planning), emotion-focused dimensions of coping (mental disengagement, focus on and venting emotions, denial, humor, behavioral disengagement, use of emotional social support, substance abuse, and suppression of competing activities), and various measures of academic behaviors (number of incomplete grades taken, academic semesters completed, and GPA). Two subjects had incomplete grit scale measures, therefore their scores were recorded as missing values.

Impacts on Academic Self-Efficacy

The perseverance of effort and active coping together explained 25.8% variability in interaction at school, $F(2, 96) = 16.32, p < .001$. (see Table 1).

Measure	Interaction at School				
	R^2	ΔR^2	β	t	p
Active Coping	.187	-	.348	3.73	<.001
Perseverance of Effort	.258	.070*	.279	2.99	.004

Table 1

*($F\Delta$), $p < .05$

Perseverance of effort and active coping together accounted for 29.6% of variability in academic performance out of class, $F(2, 96) = 19.80, p < .001$. (see Table 2).

Measure	Academic Performance Out of Class				
	R^2	ΔR^2	β	t	p
Active Coping	.224	-	.388	4.27	< .001
Perseverance of Effort	.296	.072*	.282	3.12	.002

Table 2

*($F\Delta$), $p < .05$

Perseverance of effort, overall student GPA, and active coping together accounted for 26% variance in academic performance in class, $F(3, 96) = 10.40, p < .001$. (see Table 3). It is important to note that the positive linear relationship between GPA and Academic Performance in class provides strong evidence face validity to this study.

Measure	Academic Performance in Class				
	R^2	ΔR^2	β	t	p
Active coping	.118	-	.252	2.69	.008
GPA	.207	.090*	.297	3.33	.001
Perseverance of Effort	.260	.053*	.241	2.58	.012

Table 3

*($F\Delta$), $p < .05$

Perseverance of effort, number of incomplete grades or academic withdrawals taken, and active coping together accounted for 36% variance in school-work-life balance, $F(3, 96) = 12.94, p < .001$ (see Table 4).

Measure	School-Work-Life Balance				
	R^2	ΔR^2	β	t	p
Perseverance of Effort	.201	-	.357	4.05	< .001
Number of Incomplete Grades	.333	.048*	-.206	-2.40	.018
Active Coping	.360	.028*	.191	1.99	.050

Table 4

*($F\Delta$), $p < .05$

Number of Incomplete Grades' and Academic Withdrawals Influence on School-work-life balance

Based on our previous analysis, we wanted to further explore the negative linear relationship between the number of incomplete grades and withdrawals and school-work-life balance. Our incomplete grade or academic withdrawal frequency count was roughly distributed between none (48%), one (26%) and two or more (26%). Therefore, an ANOVA analysis was conducted using the number of incomplete grade or academic withdrawals and the independent variable while the School-work-life balance rating was the dependent variable. Indeed, the number of incomplete grades or academic withdrawals taken by students significantly reduce one's ability to manage school-work-life balance ($F(2,97) = 6.94, p = .002$). Post hoc tests showed that obtaining more than two incomplete grades or academic withdrawals had a significant effect on reducing one's ability to manage school, work, and other life obligations ($p = .001$). This result is shown on Figure 1.

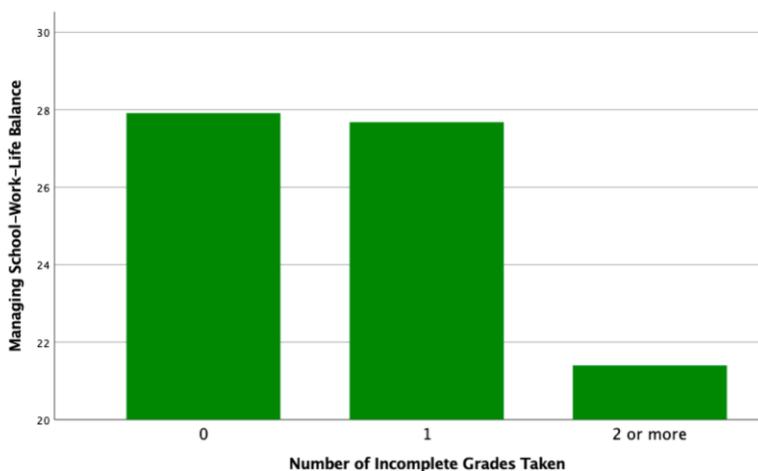


Figure1: Showing the post hoc analysis of a one-way ANOVA between managing school-work-life balance and number of incomplete grades or academic withdrawals taken. An observable, significant reduction is present when obtaining more than one incomplete grade or academic withdrawal. The Y-axis scale was adjusted since there were

no scores below 20 points or over 30 points, we chose this portion of the academic self-efficacy subscale to present our findings.

Discussion

One key theme from the results of this research study is the impact of the grit subscale of perseverance of effort across various domains of academic self-efficacy. The current research literature has indicated that the two grit subscales of perseverance of effort and consistency of interest have differential effects on personal goals and psychological states among individuals (Disabato et al., 2018). For example, individuals who are able to persevere through various challenges (e.g. academic or personal setbacks) may believe pursuing their long-term goals (e.g. completion of an undergraduate degree) as worthwhile due to increasing their subjective well-being upon meeting their goals. On the other hand, rigidly maintaining consistency of interests year after year may not be a route towards improving their subjective well-being over a period of time. A more realistic scenario is that a college student might switch his or her consistency of interest from academics during the academic school year towards physical fitness in the summer, while still persevering with each goal (Disabato et al., 2018). The impact of perseverance of effort seen across the academic self-efficacy domains of interaction at school, academic performance out of class, and school-work-life balance, as seen in the results of the current research study, indicates that this aspect of grit would need to be properly trained among college undergraduates early in their lives to help them achieve academic success. For example, White and colleagues (2017) has suggested using self-distancing (e.g. taking an outsider's view of one's own situation) to help train and improve the personality trait perseverance among younger individuals. In turn, this early perseverance training may have a long-term effect as a person moves towards accomplishing their undergraduate education goals.

Active coping also appeared as a predictor across all domains of academic self-efficacy. Khan (2013) also found active coping to be a positive contributor to academic self-efficacy. When examining self-efficacy and anxiety symptomology in adolescents, Muris (2002) found that active coping strategy a positive predictor of total self-efficacy, which included social, emotional, and academic self-efficacy subscales. Chemers and colleagues (2001) also examined freshmen college students and compared their performance expectations in the first college quarter to their end of first school year achievements in terms of academic-self efficacy, optimism, and coping abilities; they found active coping to be a moderator variable to optimism through its effect on challenge-threat evaluations. Trait resilience was found to be a positive influence on active coping strategy in college students beyond cultural background effects (Li & Nishikawa, 2012). We may conclude that active coping is an important building block for incoming college students' academic self-efficacy, which is strongly tied to their resilience, academic performance and confidence in future performance.

The number of incomplete grades or academic withdrawals taken sought by students showed a strong negative effect on school-work life balance, which suggests that this academic policy may have a serious effect on students' academic self-efficacy; specifically on balancing school and work life obligations. This raises the argument whether institutions of higher education in the United States and even around the world need to more clearly evaluate and provide limits to the number of incomplete grades and withdrawals an undergraduate student can request during the length of their academic career. Based on a 2017 survey of grading practices from a diverse sample of 661 undergraduate institutions in the United States, 97% of the higher education institutions have an incomplete policy (Kilgore, 2017). The same survey indicated that there is wide range of criteria (e.g. extenuating circumstances 84%, faculty discretion 75%, last half of the course content needs to be completed, 31%) for granting an incomplete grade to students. The deadline to resolve the incomplete grade taken by the student across various undergraduate institutions can vary between one academic year after the incomplete grade was granted (8%), by the end of the next academic term after the incomplete grade was granted (28%), or even 6 weeks after the start of the next academic term (6%)(Kilgore, 2017). In the academic policies in the United States higher education institutions, there are no specified limits to the number of incomplete grades a student can request over the length of their academic career. Although this academic policy is beneficial for the adverse life situations for students who are conscientious to meet the learning outcomes of their courses, there might be some students who might be overworked or overburdened with personal obligations outside of school might be tempted view the incomplete grade policy as an easy way to earn extra time to complete their coursework and enable a student to not focus on building their academic career. In terms of academic withdrawals, Kilgore (2017) reports that 78% of the 661 undergraduate institutions in the United States does not differentiate between "withdrawal failing" and "withdrawal passing" in final grading. This suggests that withdrawals are mostly entered as failing grades for student who seek this option when they are not able to balance their school obligations with their personal obligations. In order to prevent excessive use of incomplete grades and academic withdrawals, we would suggest building high levels of active coping and perseverance among incoming college students.

Since the transition from a high school setting to college is a difficult process for most young adults, it is also crucial to aid the freshmen and sophomore students with adequate guidance to help them develop various facets of academic self-efficacy. Based on previous research, the most frequently found reasons to not finish a

college course are job-conflict, dissatisfactions with the instructor, fear of a poor grade, heavy course load, and dissatisfaction with course content (Lamb et al., 2004). Academic advising should pay more attention to incoming freshmen and even sophomore students to help them choose the most appropriate courses for their major, ensure that the course fits students' interests, avoid overloading students' course load, and even recommend nurturing professors in order to help these students build the various facets of their academic self-efficacy. Rosenthal (1998) even suggests that a teachers' reputation can make an enormous difference in class retention and selection, as well as whether the course was required, was the subject of the course interesting, and whether it was recommended by an advisor or another faculty. All of this information can be available for academic advisors, and this knowledge should be passed onto students to encourage them the college setting, thus avoiding unnecessary academic withdrawals or seeking incomplete grades to catch up the missing work during the semester.

Limitations and Future Directions

This study was collected data from university or college students located in the United States where although ethnic diversity is high but this does not represent an international sample of participants. Thus a future research study using an international sample of participants may help to generalize the findings of this research study. To obtain a high statistical power, G-power (.80) suggested a minimum of 157 subjects for this study. Therefore, future replication should reach and possibly exceed that calculated subject pool. Furthermore, the key academic indicators such as GPA, the number of Incompletes grades and academic withdrawals of students were self-reported. Thus, future studies may need corroboration of self-reported data with the actual academic records of the students, but this can become problematic on the privacy issues surrounding the access to student academic records. Moreover, many versions of coping scales exist in the research literature thus the application of a different coping scale may be interesting to examine among a sample of students across the world. Finally, a future research study can ask separate questions on the number of incompletes taken by a student and the number of withdrawals taken by a student. This is to help ensure that there is a better delineation between the effects of a student taking an incomplete grade versus the effect of a student withdrawing from courses upon the academic self-efficacy focused on school-work-life balance.

Conclusion

Our results suggest that academic self-efficacy as a whole is impacted by multiple factors such as the number of incomplete grades or withdrawals students decide to obtain, how well students can use active coping in an academic setting and the level of perseverance among students. Based on this study, it would important to consider for academic college counselors to foster grittiness and active coping in the academic environment to help promote academic self-efficacy and also help reduce the instances when students request for incomplete grades or academic withdrawals for their courses.

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