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College motivation, self-efficacy and college adjustment of freshmen college students: The structural equation model approach

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***Abstract*---**The current study examined whether the relationship between college motivation and college adjustment was mediated by self-efficacy by freshmen college students. Participants (N=312) consisted of freshmen college students from a state university in Pampanga, Philippines. They were voluntarily participated and completed the survey that assessed college motivation, self-efficacy, and college adjustment. Structural equation modeling was utilized to examine the relationship of the variables. Results showed that self-efficacy mediated the relationship between intrinsic motivation and positive college adjustment. Extrinsic motivation was found to be statistically correlated with positive college adjustment, however, extrinsic motivation has no direct effect on college adjustment in the final model. Moreover, amotivation has direct effect on negative college adjustment. These findings suggest that interventions which help to increase the intrinsic motivation level of the college students or those student entering in college may wish to incorporate in counseling programs in senior high schools, colleges and universities to avoid the increasing number of out of school youth in the Philippines.

***Keywords*---**college motivation, college adjustment, self-efficacy, intrinsic motivation.

Introduction

Finishing a college degree in the Philippine is an important factor in obtaining employment or high paying job, however, not everyone who starts in college finishes a degree. One of the challenges of greatest concern in higher education in the Philippines is the high rate of out of school youth. The Philippine Statistics Authority (2017) reported that 3.8 or one in the children, aged 6 to 24, are not in school. The most common reasons among the out-school youth for not attending school or dropping from school were family concerns or problems, financial concerns, and lack of personal interest. Most of the out of school youth are 16 to 24 years old who are supposed to be senior high or college level.

In 2013, Philippine Education System has revised its basic education curriculum and implemented the K-12 program. This curriculum is designed to provide sufficient time for mastery of concepts and skills, develop lifelong learners, and prepare graduates for tertiary education, middle-level skills development, employment, and entrepreneurship. In the survey conducted by Social Weather Stations (SWS) reported that 72% percent of Filipino adults believe that the new curriculum, K-12 program, will be prepared students in their college education even in their field of work (Roy Montebon, 2014). Now, the K-12 program has already produced one batch of senior high school graduates. This study is a break new ground in the Philippines to investigate the level of college adjustment of K-12 senior high school graduates in relation to their college motivation and efficacy.

College life is a stage where students face array of new social and academic challenges in adapting with their new academic environment and new role as college students. During college, many students experience dramatic change in their lifestyles (LaBrie et al., 2012). Many of these changes consist of becoming more independent, being able to organize their own life, to prioritize, to negotiate and to comply with the requirements imposed by their college professors (David & Nită, 2014) while managing the pressure from the parents and family. The effects of these changes hinder successful adjustment to the university (Iglesias-Benavides et al., 2016) and academic success.

LaBrie and his colleagues (2012) found out that difficulties related to college adjustment are referred as a significant factor accounting for the nearly 50% of all college students that leave college without obtaining a degree. They also obtained that negative college adjustment is related with coping drinking motives and drinking consequences. Hence, college students must learn to navigate a new set of academic and social demands while also living on their own for the first time (Clark & Schroth, 2010). College adjustment was found as a significant factor in student success (Gray et al., 2013). College adjustment defines as successfully adapting to college life in aspects of relationships, academics, self-satisfaction, career selections, and emotions (Zhang et al., 2020). Students who are acclimated in the college environment exhibit ability to cope with the obligations as a college student, to deal with a complex and new situation, to wake up on time in the morning and to participate, get involve, complete work at the appointed date and to sustain intrinsic motivation (David & Nită, 2014).

Additionally, motivation is observed as an important determinant of students' learning and achievement within academic setting (Peng, 2012). Students who are found to be motivated report positive academic experiences and performance good outcomes (Vanslambrouck et al., 2018). Also, Grimaldi et al., (2016) found that academic motivation found to be not associated with alcohol use or alcohol-related motives in college students. Self-determination Theory (Deci, E. and Ryan, R., 2015) is a motivational theory of personality, development, and social processes that examines how social contexts and individual differences facilitate different types of motivation, intrinsic and extrinsic motivations, and in turn predict learning, performance, experience, and psychological health.

Academic motivation can most simply be defined as the factors that influence a person to attend school and obtain a degree (Clark & Schroth, 2010). For example, a person who is intrinsically motivated perceived the college tasks as pleasurable and satisfying in spite of academic difficulties and challenges. Consequently, the student quickly involved and sustain engagement in the academic tasks until they earn the degree. Also, self-efficacy is one of the motivational components in college (Müller & Seufert, 2018). Self-efficacy is defined as an individual's beliefs regarding their ability to accomplish goals and overcome challenges (Bandura, 1989a). Beliefs that have been shown to play a central role in successful college adjustment. Self-efficacy was positively related to active coping (Guerra et al., 2018), planning to the future (Azizli et al., 2015), better academic performance (Talsma et al., 2019) and life satisfaction (Azizli et al., 2015; Weber et al., 2013).

Thus, this paper sought to determine the freshmen college students' levels of academic motivation and self-efficacy and their level of academic adjustment. Thus, this study aimed to design a structural equation model in order to better explain how the academic motivation and self-efficacy affect college adjustment among freshmen college students who completed K-12 program. This study hypothesized the following: (a) intrinsic motivation would have a direct positive effect on college positive adjustment and mediated with general efficacy; (b) extrinsic motivation would have a direct positive effect on college positive adjustment and mediated with general efficacy; (c) amotivation would have a direct positive association with college negative adjustment and mediated with general efficacy.

Methods

Participants of the Study

A total of 312 freshmen college students (133 females, 179 males) recruited from a state university in Pampanga. Participants were randomly selected from seven different colleges. The participants were informed that their participation is voluntary, their responses will be remained confidential, data will be stored in a secure place, and the findings will be disseminated only for scholarly purposes. Anonymity of this self-administered survey will ensure by assigning an identification number to every survey participant.

Instruments

- *College Adjustment.* Participants were assessed on college adjustment using the College Adjustment Test (CAT). CAT was designed to measure students' adjustment to college. It consists of 19 items, self-report questionnaire that measures positive adjustment, negative adjustment, and homesickness. Response options for all items used a 5-point Likert scale ranging from 1 to 5. Cronbach coefficient alpha used in this study was .74.
- *College motivation.* Students' motivation was measured using Academic Motivation Scale. The instrument consists of 28-item with five subscales, namely, amotivation, external regulation, introjected regulation, identified regulation, and intrinsic motivation. Response choices were rated on 7-likert scale from 0 (does not respond at all) to 7 (responds exactly). Cronbach coefficient alpha used in this study was .86.
- *Self-efficacy*. General self-efficacy scale was developed by Schwarzer and Jerusalem (1995). The scale consists of 10-item which intended to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. Cronbach coefficient of the scale range from .76 to .90.

Data Analysis

Descriptive statistics were computed for three variables of the study; college motivation, self-efficacy, and college adjustment. *T* test was utilized to assess the significant difference of male and female students in their level of college motivation, self-efficacy, and college adjustment. Pearson correlation analysis examined the relationships among the three variables. SPSS version 23.0 was used and the level of statistical significance was 0.05. Structural equation model was proposed and tested using AMOS version 19. Goodness of fit was determined criteria that comparative fit indices (CFI) over 0.95 and RMSEA values below 0.06 indicate a good fit between hypothesized model and observed data. Exogenous variables in the proposed model included intrinsic motivation, extrinsic motivation, amotivation, and self-efficacy. Predicted endogenous variables were positive adjustment and negative adjustment.

Results

Among the 312 freshmen college students who voluntarily participated in this study, more than half of them are male (179, 57.37%) and the mean age of male was 65.20. The study sample demographic characteristics are shown in Table 1.

Table 1
Demographic characteristics of the participants

Variables	Male (n=179)		Female (n=133)	
	Mean	SD	Mean	SD
Intrinsic Motivation	65.20	11.17	68.92	11.70
Extrinsic Motivation	67.26	11.62	71.08	8.93
Amotivation	10.90	4.89	9.70	4.91
Positive Adjustment	28.04	5.97	28.98	6.28
Negative Adjustment	32.87	11.01	34.96	10.46
Self-Efficacy	28.47	4.85	28.60	4.36

There is a significant different on the level of college motivation, intrinsic motivation ($t(310)= 2.85$, $p<0.05$) and extrinsic motivation ($t(310)= 3.17$, $p<0.05$) between male college students and female college students, female college students are more intrinsically and extrinsically motivated than male college students. Consequently, male students are more amotivated than female students ($t(310)= 2.15$, $p<0.05$). However, the results shows that there are no significant difference on the levels of college adjustment, positive adjustment ($t(310)= 1.34$, $p>0.05$) and negative adjustment ($t(310)= 1.70$, $p>0.05$), and self-efficacy ($t(310)= 0.23$, $p>0.05$) between male and female freshmen students. Furthermore, Table 2 shows the correlation matrix. The relationship between college motivation, college adjustment and general self-efficacy was investigated using Pearson product-moment correlation coefficient.

Table 2. Correlation matrix

	Mean	SD	2	3	4	5	6	7	8
1. Intrinsic motivation	66.78	11.53	.695**	-.104	.377**	.010	.096	.109	.350**
2. Extrinsic motivation	68.89	10.71		-.179**	.245**	-.019	.099	.067	.247**
3. Amotivation	10.39	4.92			-.078	.217**	.069	-.215**	-.131*
4. Positive adjustment	28.44	6.11				.112*	.120*	.303**	.257**
5. Negative adjustment	33.76	10.81					.632**	-.841*	-.111*
6. Homesickness	27.05	6.91						-.750**	-.118*
7. College adjustment	78.65	13.32							.236*
8. Self-efficacy	28.52	4.64							

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

There was moderate correlation between intrinsic motivation and positive adjustment, r = 0.377, p<0.01. The results also showed that there was a significant positive relationship between intrinsic motivation and general efficacy, r=0.350, p<0.01. Furthermore, there was a moderate positive relationship between extrinsic motivation and positive affect, r = 0.245, p<0.05, with high extrinsic motivation associated with high positive affect. Also, extrinsic motivation was moderately associated with general efficacy, r=.247, p<0.01. Interesting to note that amotivation was negatively correlated with college adjustment, r = -.215, p<0.01. The results also showed that amotivation was negative correlated with general efficacy, r = -.131, p<.05. The standardized results of each of the main structural factors in the model are summarized in figure 1. College students' motivation and self-efficacy were linked to college adjustment. The final model shown in fit the data well, $\chi^2(5, N=312) = 10.741$, $p=0.05$, CFI=1.00, NFI = .97. The paths of intrinsic motivation and amotivation are significant (0.01) and labeled with their standardized estimates.

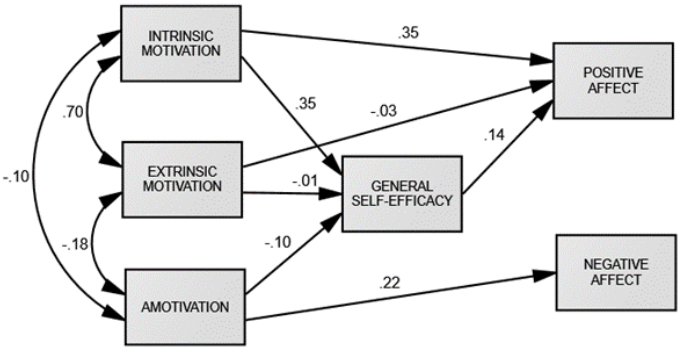

Figure 1. Standardized estimation for structural equation model

As expected, the direct effects for intrinsic motivation suggested that increases in positive motivation predicted higher levels of general self-efficacy (β = 0.35, p<0.01). Additionally, the final model suggested that increases in intrinsic motivation predicted higher levels of college positive adjustment (β = 0.35, p<0.01), and total effects revealed that students whose intrinsically motivated exceeded the mean by 10 percent averaged 2 percent higher college positive adjustment (2% = 10% x 0.185, rounded, standardized coefficient). As for the indirect effect on the level of positive affect derived from the general efficacy, it was also statistically significant (β = .050, p<0.01). Also, the direct effect of general efficacy on positive motivation level was statistically significant but with lesser intensity (β = 0.14, p<0.01)**,** where students whose general self-efficacy exceeded the mean by 10 percent averaged 2 percent higher college positive adjustment (2% = 10% x 0.188, rounded, standardized coefficient). Furthermore, the direct effect of extrinsic motivation found not statistically significant with self-efficacy (β = -0.013, p=0.859) and with positive adjustment (β = -0.033, p=0.644). Finally, regarding the structural model's parameter estimation, this study obtained a (β = 0.22, p<0.01) that allows us to confirm that amotivation has an impact on the level of college negative adjustment.

Discussion

The objective of the study was to design a structural equation model in order to better explain the academic motivation and self-efficacy affect college adjustment among freshmen college students who completed K-12 program. Among the 312 participated who were randomly selected, more than of them were male. The results found that women students were more intrinsically and extrinsically motivated than male students. In this study it was specifically identified that intrinsic motivation plays a relevant role in predicting the positive adjustment for freshmen students and the self-efficacy variable acts as a mediator as it explains the relationship arising between the intrinsic motivation and the positive college adjustment. Moreover, amotivation was also found to have direct effect on negative adjustment. The current study extends previous works demonstrating that elevated intrinsic motivation at beginning of college life may facilitate smooth transition into college. However, self-efficacy was found less significant value with respect to the intrinsic motivation received, which may explain that student's

intrinsic motivation is a strong force to make student persevere to achieve his or her goal in life, obtaining a college degree, nevertheless, self-efficacy can be consider an important ingredient in accomplishing tasks in college. Therefore, the results suggest that identifying the level of intrinsic motivation and self-efficacy of the freshmen college students and providing adequate guidance in the sphere of their college adjustment to avoid leaving the college without finishing a degree. Students who have a high level of amotivation may have a perception of themselves as lacking of control over their academic requirements, incompetent, and absence of purpose.

This study has some limitations. Participants of this study were selected from only one state university from the province of Pampanga. Accordingly, for the future studies, it would be advisable to obtain a sample representative from other private universities to observe whether significant differences arise and may also employ a cross-sectional design. Future research would benefit by longitudinally assessing college success and their relationship to collegiate adjustment, motivation, and self-efficacy related factors after arriving on campus and throughout a student's college tenure. In summary, this study offers contributions to our understanding of college motivation, self-efficacy, and college adjustment. This study shows that relationship between intrinsic motivation and positive adjustment is mediated by self-efficacy. Further, it shows that extrinsic motivation has no direct effect on positive adjustment still it is found to be correlated. Amotivation was found to be directly predictive of negative adjustment. Also, male and female students showed significant difference in their level of college motivation, however, in relation with college adjustment, it showed that there is no significant difference. Finally, the results identify implications for the design and content of college guidance programs in helping college students to able to adjust positively and earn a degree in college. The unique differences of male and female should be considered in the creation of the intervention program.

References

Azizli, N., Atkinson, B. E., Baughman, H. M., & Giammarco, E. A. (2015). Relationships between general self-efficacy, planning for the future, and life satisfaction. Personality and Individual Differences, 82, 58–60. https://doi.org/10.1016/j.paid.2015.03.006

Clark, M. H., & Schroth, C. A. (2010). Examining relationships between academic motivation and personality among college students. Learning and Individual Differences, 20(1), 19–24. https://doi.org/10.1016/j.lindif.2009.10.002

David, L. T., & Nită, G. L. (2014). Adjustment to First Year of College – Relations among Self-perception, Trust, Mastery and Alienation. Procedia - Social and Behavioral Sciences, 127, 139–143. https://doi.org/10.1016/j.sbspro.2014.03.228

Gray, R., Vitak, J., Easton, E. W., & Ellison, N. B. (2013). Examining social adjustment to college in the age of social media: Factors influencing successful transitions and persistence. Computers and Education, 67, 193–207. https://doi.org/10.1016/j.compedu.2013.02.021

Grimaldi, E. M., Ladd, B. O., & Anderson, K. G. (2016). Drinking, abstinence, and academic motives: Relationships among multiple motivational domains and

alcohol use in college students. Addictive Behaviors, 55, 1–4. https://doi.org/10.1016/j.addbeh.2015.12.014

Guerra, C., Farkas, C., & Moncada, L. (2018). Depression, anxiety and PTSD in sexually abused adolescents: Association with self-efficacy, coping and family support. Child Abuse and Neglect, 76(October 2017), 310–320. https://doi.org/10.1016/j.chiabu.2017.11.013

Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. Academy of Accounting and Financial Studies Journal, Vol. 26, no.2, pp. 1-18

Allugunti V.R (2022). A machine learning model for skin disease classification using convolution neural network. International Journal of Computing, Programming and Database Management 3(1), 141-147

Allugunti V.R (2022). Breast cancer detection based on thermographic images using machine learning and deep learning algorithms. International Journal of Engineering in Computer Science 4(1), 49-56

Iglesias-Benavides, J. L., Blum-Valenzuela, E., López-Tovar, A. V., Espinosa-Galindo, A. M., & Rivas-Estilla, A. M. (2016). The College Adjustment Scales (CAS) test and recent students' school performance upon entry into a medical school. Medicina Universitaria, 18(73), 201–204. https://doi.org/10.1016/j.rmu.2016.10.005

LaBrie, J. W., Ehret, P. J., Hummer, J. F., & Prenovost, K. (2012). Poor adjustment to college life mediates the relationship between drinking motives and alcohol consequences: A look at college adjustment, drinking motives, and drinking outcomes. Addictive Behaviors, 37(4), 379–386. https://doi.org/10.1016/j.addbeh.2011.11.018

Müller, N. M., & Seufert, T. (2018). Effects of self-regulation prompts in hypermedia learning on learning performance and self-efficacy. Learning and Instruction, 58(April), 1–11. https://doi.org/10.1016/j.learninstruc.2018.04.011

Peng, C. (2012). Growing and Educational Environment of College Students and Their Motivational and Self-regulated Learning. Physics Procedia, 33, 1456–1460. https://doi.org/10.1016/j.phpro.2012.05.238

Roy Montebon, D. T. (2014). K12 Science Program in the Philippines: Student Perception on its Implementation. International Journal of Education and Research, 2(12), 153–164.

Talsma, K., Schüz, B., & Norris, K. (2019). Miscalibration of self-efficacy and academic performance: Self-efficacy ≠ self-fulfilling prophecy. Learning and Individual Differences, 69(November 2018), 182–195. https://doi.org/10.1016/j.lindif.2018.11.002

Vanslambrouck, S., Zhu, C., Lombaerts, K., Philipsen, B., & Tondeur, J. (2018). Students' motivation and subjective task value of participating in online and blended learning environments. Internet and Higher Education, 36(September 2017), 33–40. https://doi.org/10.1016/j.iheduc.2017.09.002

Weber, M., Ruch, W., Littman-Ovadia, H., Lavy, S., & Gai, O. (2013). Relationships among higher-order strengths factors, subjective well-being, and general self-efficacy - The case of Israeli adolescents. Personality and Individual Differences, 55(3), 322–327. https://doi.org/10.1016/j.paid.2013.03.006

Zhang, G., Yang, X., Tu, X., Ding, N., & Lau, J. T. F. (2020). Prospective relationships between mobile phone dependence and mental health status

among Chinese undergraduate students with college adjustment as a mediator. Journal of Affective Disorders, 260, 498–505. https://doi.org/https://doi.org/10.1016/j.jad.2019.09.047

Rinartha, K., Suryasa, W., & Kartika, L. G. S. (2018). Comparative Analysis of String Similarity on Dynamic Query Suggestions. In 2018 Electrical Power, Electronics, Communications, Controls and Informatics Seminar (EECCIS) (pp. 399-404). IEEE.

Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Get vaccinated when it is your turn and follow the local guidelines. International Journal of Health Sciences, 5(3), x-xv. https://doi.org/10.53730/ijhs.v5n3.2938