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Life Satisfaction and Engagement among University Undergraduates: A Moderated Mediation Model of Academic Self-efficacy and Life Orientation

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SODDISFAZIONE DI VITA E IMPEGNO DEGLI STUDENTI
UNIVERSITARI: UN MODELLO DI MEDIAZIONE MODERATO
DAL LIVELLO DI AUTOEFFICACIA ACCADEMICA E DAL TIPO
DI ORIENTAMENTO ALLA VITA

ABSTRACT

This study examined the conditional indirect effect of optimism in the interplay between life satisfaction and student engagement through academic self-efficacy. Participants were 166 (mean age = 21.72, $\sigma = 2.71$, ♀ = 57.8%) university undergraduates, who responded to an online survey containing Student Engagement Scale, Satisfaction with Life Scale, General Academic Self-Efficacy Scale and Life Orientation Test-Revised. Data were screened for normality and intercorrelation using the Pearson Product Moment Correlation statistical tool. Both the direct and indirect effects were estimated using the AMOS Structural Equation Modelling (SEM) procedure while the conditional indirect effect was ascertained using the Hayes (2018) Process Macro. Results showed that life satisfaction, academic self-efficacy and optimism were independent predictors of student engagement. The indirect effect of academic self-efficacy in the life orientation - student engagement link was also significant. The study concluded that the conditional indirect effect of optimism in the association between life satisfaction and student engagement via academic self-efficacy was stronger for low optimistic undergraduate students.

Keywords: Academic self-efficacy; Life orientation; Optimism; Satisfaction with life; Student engagement.

1. INTRODUCTION

Academic activities among university undergraduates are enormous. Thus, students in higher institutions of learning need to engage with their studies to successfully complete their programme. Student engagement describes the quality of efforts that students deliberately devote to their academic activities which «contribute directly to desired outcomes» (Hu & Kuh, 2001). Ability to engage with one's studies has been found to be beneficial to academic achievement, programme completion, truancy and delinquency reduction (Krause & Coates, 2008; Wang & Holcombe, 2010; Wang & Fredrick, 2014; Abubakar *et al.*, 2017) among undergraduate students. However, the conditional indirect effect of optimism in the relationship between life satisfaction and student engagement through academic self-efficacy among university undergraduate students is unclear. Thus, this study investigated the conditional indirect effect of optimism in the link between life satisfaction and student engagement via academic self-efficacy.

Life satisfaction may impact student engagement. Pavot and Diener (1993) defined life satisfaction as the cognitive appraisal of an individual quality of life. It is potentially capable of facilitating optimal life functioning (Diener, 2012). The benefits of life satisfaction are enormous. For instance, individuals who are satisfied with their current life experiences will have better emotional wellbeing, improved academic performance, better academic self-efficacy better academic experience and improved engagement in college (Allan & Bott, 2012; Duffy, Heffner, & Antaramian, 2016; Antaramian, 2017; Ojha & Kumar, 2017). It is believed that life satisfaction will play significant roles in academic self-efficacy and student engagement among university undergraduate students in Nigeria. Thus, it is hypothesized that:

- *Hypothesis 1* – Life satisfaction will positively associate with academic self-efficacy.

Academic self-efficacy is a key personal resource that plays important roles in student engagement in college as well as other learning outcomes (Richardson *et al.*, 2012; Bartimoth-Aufflick *et al.*, 2015). It describes student's perceived capacity to set and achieve academic goals as well as improved capacity for success (Bandura, 1997). Academic self-efficacy has been reported to correlate with learning outcomes, academic

performance, student engagement, learning related emotions and metacognitive learning strategies (Dogan, 2015; Honicke & Broadbent, 2016; Noreen *et al.*, 2018; Hayat *et al.*, 2020). Relatedly, academic self-efficacy has been found to mediate the association between academic climate and academic performance (Abd-Emotaleb & Saha, 2013), psychological climate and academic achievement (Heihaard *et al.*, 2014). Furthermore, it is an independent predictor of academic of academic functioning (Travis *et al.*, 2020). These studies proved that academic self-efficacy is a predictor and mediator of learning outcomes. Thus, the study proposed that academic self-efficacy will predict student engagement and also mediate the association between life satisfaction and student engagement. Hence, it is hypothesized that:

- *Hypothesis 2* – Academic self-efficacy will have an indirect effect on the relationship between life satisfaction and student engagement.

Life orientation, which consists of two constructs of optimism and pessimism, may play a significant role in student learning outcomes. Optimism represents an attitude of positive expectations while pessimism refers to a negative future expectation (Carver & Scheier, 2000). Studies have linked optimism to several behavioral outcomes such as psychological wellbeing (Rathore, Kumar, & Gautam, 2015), academic engagement (Nurttala, Ketonen, & Lonka, 2015), engagement coping, better college adaptation (Perera & McIlveen, 2014) and college adjustment (Richardson, Abraham, & Bond, 2012; Tetzner & Becker, 2018). On the other hand, students with pessimist life orientation may experience lower academic performance (Yates, 2002). Also, evidence has shown that high optimism may pose significant drawbacks particularly when associated with academic expectations that are unrealistic (Jefferson, Bortolotti, & Kuzmanovic, 2017). High optimism compared to low optimism can lead to students overestimating their capability for academic activities (Klassen, 2002). However, the conditional indirect effect of optimism is scanty in literature. Therefore, it is believed that indirect effect of academic self-efficacy in the relationship between life satisfaction and student engagement will be strengthened by high optimism. Thus, it is hypothesized (see *Fig. 1*) that:

- *Hypothesis 3* – Optimism will have a conditional indirect effect on the relationship between life satisfaction and student engagement through academic self-efficacy.

2. METHOD

2.1. *Participants and procedure*

Approval for the study was secured from the Ethics Committee of the Department of Psychology, Obafemi Awolowo University, Ile-Ife, Nigeria. Participants, who were undergraduate students from selected universities in Nigeria, completed an online survey using Google Forms. The first item on the Google Form sought to secure their consent before proceeding to participate in the survey. A total of 166 undergraduate participated in the survey. Participants' socio-demographic characteristics indicated that more female (57.8%) than male (42.2%) undergraduate students participated in the study. Similarly, majority of the participants were in year four (54.2%) followed by year three (27.7%) students while those in year two and year one were 12.7% and 5.9% respectively. The parental socio-economic status of participants showed that most of them came from an average socio-economic status (77.7%) followed by high socio-economic (16.9%) background while only 5.4% indicated low parental socio-economic status. On religious affiliation, majority of the participants were Christian (74.7%), while only 24.7% were Muslims and .6% indicated that they practice traditional religion.

2.2. *Measures*

Student engagement – This construct was measured with the Utrecht Work Engagement Scale (UWES-9; Schaufeli *et al.*, 2006). It is a 9-item scale that comprises of three subscales, namely vigor (e.g. «I feel energetic and capable when I'm studying or going to class»), dedication (e.g. «I am enthusiastic about my studies») and absorption (e.g. «I am immersed in my studies»). It is scored on a 6-point Likert scale ranging from *never* (1) to *always* (6). The validity coefficients reported by the authors varied between .85 and .92 (Schaufeli *et al.*, 2006). Also, an internal consistency of Cronbach $\alpha = .95$ was established for this study.

Life satisfaction – Participants' life satisfaction was assessed using the 5-item Satisfaction with Life Scale (SWLS) that was developed by Diener *et al.* (1985). Sample item on the scale is «In most ways my life is close to my ideal». The Likert response format ranges from 1 (*strongly disagree*) to 7 (*strongly agree*). The author obtained item-total correlations of .81, .63, .61, .75, and .66 for the five items (Diener *et al.*, 1985). The scale revealed a strong Cronbach alpha reliability in the current study ($\alpha = .85$).

Academic self-efficacy – This construct was assessed using the 4-items General Academic Self-Efficacy Scale (GASE) developed by Nielsen *et al.* (2017). The scale measured individual’s confidence in their ability to set and achieve goals. Sample item include «I know I can stick to my aims and accomplish my goals in my study». The authors reported .70 and .72 reliability coefficient for male and female psychology samples. The scale has a 7-point Likert response format that ranges from *strongly disagree* (1) to *strongly agree* (7). Scores on GASE for this study had an internal consistency reliability coefficient of .95.

Life orientation – Orientation to life among participants was measured using the Life Orientation Scale-Revised (LOT-R) developed by Scheier *et al.* (1994). The instrument has 10 items with 4 filler items that were removed because they are not usually included in the calculation of the responses. The 6-items scale is divided into two dimensions of optimism (e.g. «In uncertain times, I usually expect the best») and pessimism (e.g. «If something can go wrong for me, it will») of 3 items each with a response format that ranges from 1 = *strongly disagree* to 5 = *strongly agree*. The scale can either be summed or used as subscales. Scheier *et al.* (1994) reported a .78 internal reliability coefficient for the scale. An alpha coefficient of .83 was achieved for the overall scale of LOT-R while $\alpha = .89$ and $\alpha = .79$ were obtained for optimism and pessimism subscales respectively.

3. RESULTS

Table 1. – Descriptive statistics, correlation matrix, Cronbach α , skewness and kurtosis.

VARIABLES	MEAN	SD	1	2	3	4	5
1. Life satisfaction	14.78	4.38	–				
2. Academic self-efficacy	17.60	5.95	.678**	–			
3. Optimism	10.63	3.32	.656**	.756**	–		
4. Pessimism	8.04	3.14	.303**	.347	.414**	–	
5. Student engagement	32.34	10.65	.606**	.629**	.706**	.312	–
<i>Cronbach’s α</i>	–	–	.85	.95	.89	.79	.95
<i>Skewness</i>	–	–	-.15	-.75	-.76	.21	.20
<i>Kurtosis</i>	–	–	-.58	-.49	-.05	-.94	-.65

Note: ** = $p < .01$; N = 166.

Results of the intercorrelation matrix presented in *Table 1* indicated that life satisfaction positively and strongly related to academic self-efficacy ($r = .68, p < .01$). This indicates that the more students are satisfied with their life, the better their belief in their capacity to succeed in school. Similarly, satisfaction with life enhances undergraduate students' level of optimism ($r = .66, p < .01$) and lead to better engagement ($r = .61, p < .01$) with their academic activities. Furthermore, a significantly strong and positive association was found between optimism and academic self-efficacy ($r = .76, p < .01$) as well as student engagement ($r = .71, p < .01$). this suggests that optimism boosts students' academic self-efficacy and engagement. Furthermore, academic self-efficacy correlated positively with student engagement ($r = .63, p < .01$). Academic self-efficacy promotes better engagement among university undergraduate students.

3.1. Preliminary analyses

An initial data screening was conducted before the actual analyses. Data were screened for univariate normality assumption by establishing both the skewness and kurtosis of the distribution. All the indicators observed were below the acceptable range for skewness (± 2) and ± 7 for kurtosis based on the recommendation of Hair *et al.* (2010). The data were further screened for outliers using Cook's distance with no potential outlier.

Table 2. – Direct, indirect and total effect of the model.

OUTCOME	PREDICTORS	CAUSAL EFFECTS		
		DIRECT	INDIRECT	TOTAL
Academic self-efficacy $R^2 = .63$	Life satisfaction	.32**	–	.32**
	Optimism	.54**	–	.54**
	Pessimism	.03	–	.03
Student engagement $R^2 = .54$	Life satisfaction	.21**	.43*	.63
	Optimism	.47**	.41*	.88
	Pessimism	.01	.00	.01
	Academic self-efficacy	.13*	.02	.15

Note: * = $p < .05$; ** = $p < .01$.

Results of the Structural Equation Modelling (SEM) analysis presented on *Table 2* revealed that life satisfaction ($\beta = .32, p < .01$) and optimism ($\beta =$

.54, $p < .01$) are significant predictors of academic self-efficacy but pessimism did not ($\beta = .03, p > .05$). In agreement with the proposed hypotheses, it further showed that life satisfaction ($\beta = .21, p < .01$), optimism ($\beta = .47, p < .01$) and academic self-efficacy ($\beta = .13, p < .05$) significantly predicted student engagement (see *Fig. 1*). The indirect effect of academic self-efficacy in the link between life satisfaction ($\beta = .43, p < .05$), optimism ($\beta = .41, p < .05$) and student engagement was found to be positively significant. This also confirmed the second hypothesis.

3.2. Moderated mediation analysis

Table 3. – Model of moderated mediation.

MODELS	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P</i>	(<i>C.I</i>) <i>LL</i>	(<i>C.I</i>) <i>UL</i>
MV Model						
Constant	-6.64	3.78	-1.76	.011	-14.11	.82
LS	1.47	.24	6.07	.001	.99	1.95
Optimism	9.09	2.94	3.10	.002	3.28	14.89
LS * Optimism	-.47	.18	-2.66	.008	-.83	-.12
	F(3,162) = 52.83	R = .70	R ² = .49			
DV Model						
Constant	5.58	7.02	.80	.43	-8.22	19.45
LS	.75	.50	1.51	.13	-.23	1.72
ASE	.68	.14	4.68	.001	.39	.96
Optimism	2.87	5.57	.52	.61	-8.12	13.87
LS * Optimism	-.00	.34	-.01	.09	-.66	.66
	F(4,161) = 35.50	R = .68	R ² = .47			
CONDITIONAL DIRECT EFFECT (OPTIMISM)						
Low	.74	.23	3.27	0.001	.30	1.19
High	.74	.29	2.58	0.010	.18	1.31
CONDITIONAL INDIRECT EFFECT (OPTIMISM)						
Low	.68	.15			.39	.99
High	.36	.12			.14	.62
INDEX OF MODERATED MEDIATION	-.32	.14			-.64	-.09

Note: ASE = Academic Self-Efficacy; B = Bootstrapping; C.I.= Confidence Interval; LS = Life Satisfaction.

The third hypothesis states that optimism will have a conditional indirect effect on the relationship between life satisfaction and student engagement through academic self-efficacy. Hayes (2018) Process Macro was employed. Specifically, Process Macro Model 8 was used to test the conditional indirect effect of optimism in the relationship between life satisfaction and student engagement through academic self-efficacy. Hayes (2018), has gained significant popularity among social science researchers in the determination of conditional indirect effects among variables. Furthermore, it permits the use of bootstrap estimates to generate bias-corrected confidence interval for the observed indirect effects.

As shown on *Table 3*, the conditional direct effect of optimism in the relationship between life satisfaction and student engagement through academic self-efficacy was different between low – $B = .74, C.I (.30, .1.19)$ – and high – $B = .74, C.I (.18, 1.31)$ – optimism. However, the conditional indirect effect of optimism was found to be significant for students who are either low or high. However, it was found to be stronger for students with low – $B = .68, C.I (.39, .99)$ – than high – $B = .36, C.I (.14, .62)$ – optimism. This finding suggested that the indirect effect of optimism in the link between life satisfaction and student engagement was stronger among low optimistic students than high. The findings supported the postulation of the third hypothesis.

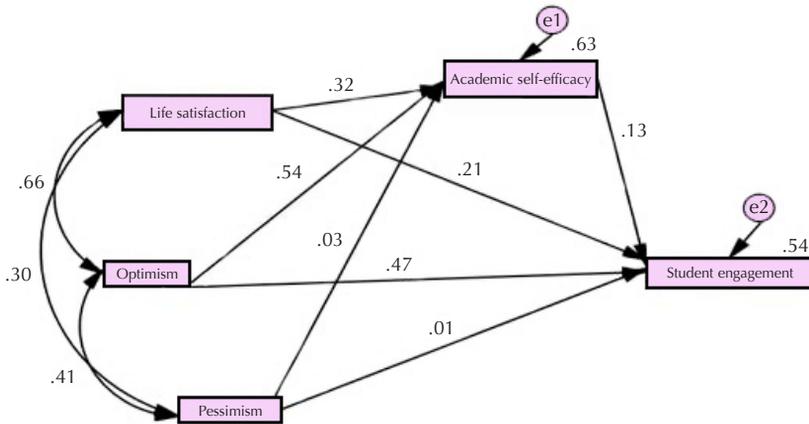


Figure 1. – Structural model of the satisfaction, academic self-efficacy and student engagement.

4. DISCUSSION

This study investigated the relationship between life satisfaction, academic self-efficacy, life orientation and student engagement among university undergraduates. It also ascertained the indirect effect of academic self-efficacy as well as conditional indirect effect of optimism in the relationship between life satisfaction and student engagement through academic self-efficacy.

In line with our expectations, life orientation was found to be a significant predictor of student engagement. Thus, when undergraduate students are satisfied with the evaluation of their current life experiences in school, they tend to engage more in their academic activities. Past studies have reported similar findings that life satisfaction facilitates student learning outcomes (Duffy *et al.*, 2012; Heffner *et al.*, 2016; Antaramian, 2017; Ojha *et al.*, 2017). This is because of the potency of life satisfaction to improve wellbeing (Ojha *et al.*, 2017). When students have positive wellbeing, they will be able to cognitively devote their energy and attention to concentrate in their study. Life satisfaction also enhanced academic self-efficacy. This implies that optimal life functioning enhances (Diener, 2012) the capacity to set and achieve academic goals among undergraduate students. It is in agreement with previous findings that have established a relation between life satisfaction and academic self-efficacy (Duffy *et al.*, 2012). When students evaluate their life in college positively, their academic self-efficacy improves significantly.

The role of life orientation in student engagement was also investigated. While optimism was found to be a significant predictor of academic self-efficacy and student engagement, pessimism was not. The findings on the association between optimism and academic self-efficacy and student engagement confirmed the positions of past studies (Richardson *et al.*, 2012; Nurttila *et al.*, 2015; Rathore *et al.*, 2015; Tetzner *et al.*, 2018). This suggests that undergraduates with expectation positive outcomes have higher believe in their capacity to achieve academic goals. Similarly, they are poised to deploy their vigour into academic activities in other to achieve excellence in their study and follow through to complete their programme.

The study also confirmed that academic self-efficacy as a significant predictor of student engagement. This agrees with the findings of previous studies (Dogan, 2015; Honicke *et al.*, 2016; Noreen *et al.*, 2018; Hayat *et al.*, 2020; Travis *et al.*, 2020) that academic self-efficacy possesses that capacity to enhance learning outcomes such as academic performance, student engagement, metacognitive learning strategies and academic functioning. Academic self-efficacy is a personal resource that helps student to

set academic goals. Thus, when undergraduate students have a significant believe in their capacity to achieve set goals, they are motivated to invest their energy in their studies and encouraged to get more dedicated to their workload in college.

In confirmation of the study prediction, it was established that academic self-efficacy mediated the relationship between life satisfaction and student engagement. The proposition of Bandura (1997) on the capacity of self-efficacy to enhance the change of success has been confirmed in the study by its role in the interaction between life satisfaction and student engagement. Therefore, the observed level of student engagement among undergraduate students in a satisfied learning environment improved through academic self-efficacy. Academic self-efficacy is a major connecting point between satisfaction with life and engagement in academic activities as it boosts students' chances of success in school.

Lastly, the conditional indirect effect of optimism in the link between life satisfaction and student engagement through academic self-efficacy was confirmed. However, findings revealed that both levels (high and low) optimism were significant. However, it was discovered that the indirect effect of academic self-efficacy on the relationship between life satisfaction and student engagement holds among low optimistic undergraduate students. This agreed to the past findings that high optimism may result to overestimation of academic capabilities (Jefferson *et al.*, 2017) in which students overestimate what they know and consequently fail to prepare adequately for academic tasks (Klassen, 2002). Thus, low optimism is significantly important for undergraduate student engagement in academic activities.

The implications of the findings of this study are that professionals and researchers in the education sector may need to examine student engagement across years of study among student groups. At the individual level, the importance of life satisfaction and academic self-efficacy have been confirmed in this study. That is, when students perceived their current quality of life as satisfactory, their academic self-efficacy is enhanced and consequently better engagement with their studies. Furthermore, this interplay holds more for low optimistic undergraduate students. Thus, educators may need to take specific practical measures to create conducive learning environment capable of improving life satisfaction and academic self-efficacy. Tendencies to overestimate the capacity of students in school should be discouraged, in other to enable them have realistic opinions about themselves. Counsellors at school counselling unit may need to assist university undergraduates discover and accept a realistic picture of their capability and fashion out strategies for gradual improvements.

The study has a number of limitations. The first limitation is that the data were collected through the use of Google Form online. This limits the access to information on those who received the survey link but declined participation. Online data collection was used due to need to enforce minimal contact in the wake of Covid-19 pandemic. The second limitation has to do with the cross-sectional data collected for the study. This suggests that caution must be taken when using the results. Lastly, further studies may consider student engagement among students at different year of study (year one to year four) as well as different disciplines (medicine, law, architecture, engineering, psychology, and so on).

In conclusion, life satisfaction plays significant roles in student engagement. The study also established academic self-efficacy as a predictor of student engagement. This study has contributed to the body of knowledge not only by confirming the predictive roles of life satisfaction in academic self-efficacy and student engagement, but that the link between life satisfaction and student engagement was possible through academic self-efficacy. Furthermore, the conditional indirect effect of optimism in the association between life satisfaction and student engagement through academic self-efficacy holds for low optimistic undergraduate students. The practical and research implications of these finds were discussed.

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RIASSUNTO

Questo studio ha esaminato l'effetto indiretto dell'ottimismo nell'interazione tra il livello di soddisfazione della vita e l'impegno degli studenti rispetto alla percezione di autoefficacia accademica. 166 studenti universitari (età media = 21,72; $\sigma = 2,71$; $\varphi = 57,8\%$) hanno risposto a un sondaggio online contenente la scala di coinvolgimento degli studenti, la scala di soddisfazione di vita, la scala di autoefficacia accademica generale e il test aggiornato di orientamento alla vita. I dati sono stati sottoposti a screening utilizzando lo strumento statistico Pearson Product Moment Correlation. Sia gli effetti diretti che quelli indiretti sono stati stimati utilizzando la procedura AMOS Structural Equation Modeling (SEM) mentre l'effetto indiretto condizionale è stato accertato utilizzando la Macro di Processo Hayes (2018). I risultati hanno mostrato che la soddisfazione per la vita, l'autoefficacia accademica e l'ottimismo sono predittori indipendenti del coinvolgimento degli studenti. Anche l'effetto indiretto dell'autoefficacia accademica nel collegamento con l'orientamento alla vita e il coinvolgimento degli studenti è risultato significativo. In conclusione, lo studio ha mostrato l'effetto indiretto condizionale dell'ottimismo nella relazione tra soddisfazione di vita e impegno degli studenti, veicolato dall'autoefficacia accademica. Tale relazione appare ancora più forte per gli studenti universitari poco ottimisti.

Parole chiave: Autoefficacia accademica; Coinvolgimento degli studenti; Orientamento alla vita; Ottimismo; Soddisfazione per la vita.

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