

Flourishing and Learning Engagement: The Importance of Personal Best Goals

Nurul Afiqah Awang & Nor Diana Mohd Mahudin*

Department of Psychology, International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur, Malaysia

ABSTRACT

Despite a growing literature on learning engagement, its relationship with flourishing has had little attention, and even less has been given to the role of personal best goals in university students. Addressing these gaps, this study investigated the relationship between flourishing and learning engagement through the mediating role of personal best goals. Data were collected via an online survey from a sample of 206 university students from various higher education institutions in Malaysia. The associations among the variables were evaluated using correlational analyses, while nonparametric bootstrapping procedures using PROCESS within IBM SPSS were used to test for mediation effects. Results showed that flourishing is positively associated with learning engagement and personal best goals, while personal best goals are significantly related to learning engagement. Both flourishing and personal best goals are also significant predictors of learning engagement. In addition, personal best goals mediated the relationship between flourishing and learning engagement, in which there is a significant indirect effect of flourishing on learning engagement via personal best goals. These results highlight the vital role of personal best goals as one of the mechanisms by which flourishing may affect learning engagement. They also shed light on the potential implications of flourishing and personal best goals in optimising students' learning in higher education.

Keywords: Flourishing, Higher Education, Learning Engagement, Mediation Analysis, Personal Best Goals, University

INTRODUCTION

The COVID-19 pandemic has created significant challenges and uncertainties worldwide, particularly in educational institutions where much learning is being transferred online. At its early stage, many educators were not prepared or competent in handling online teaching and learning due to insufficient experience and skills (Ali et al., 2020). After being so used to interacting with students face-to-face for a long time, they found it hard to engage using online learning. This situation is understandable as face-to-face methods have been shown to increase students' learning engagement and analytical skills as well as lead to better interpersonal skills between educators and students (Tan, 2020).

The sentiment towards the pandemic is echoed by university students, who have been equally affected, if not more, by the uncertainties and changes. On the one hand, students have reported experiencing technical and internet connection problems as well as difficulties in understanding instructions during online sessions (Dhawan, 2020). On the other hand, many studies have documented the distressing effects of COVID-19 on students' mental health, such as anxiety, stress, and a low sense of belonging (Arslan et al., 2020; Lederer et al., 2020; Savage et al., 2020). Despite these issues, students are still expected to engage in the courses regularly and substantially with the reality of physical interaction, so much so that their well-being and learning are being side-lined (Li et al., 2020). This is problematic as the promotion of good mental health of students promises positive outcomes for all stakeholders and society. Therefore, steps should be taken to ensure they function well and stay engaged while learning.

Engagement is a broad concept that has been explored in many disciplines, such as user engagement (Kappelman & McLean, 1994), patient engagement (Carman et al., 2013), work engagement (Bakker & Demerouti, 2008), and learning engagement (Reeve, 2013; Schaufeli et al., 2002), among others. It is typically

* Corresponding author: nordianamm@iium.edu.my
eISSN: 2462-2079 © Universiti Putra Malaysia Press

seen as a multifaceted construct (Bolliger & Martin, 2021) with components varying from behaviour, cognition, and affective (e.g., Kelders et al., 2020) to vigour, dedication, and absorption (e.g., Schaufeli et al., 2002). Learning engagement follows a similar conceptualisation in that it involves the learners' active participation in a class, including the cognitive and behavioural intensity and affective quality generated when they perform learning activities (Jung & Lee, 2018). Schaufeli et al. (2002) further characterised learning engagement into three: (i) vigour, which refers to the levels of mental effort, energy, and resilience during learning; (ii) dedication, which involves a sense of involvement, significance, inspiration, and challenge in learning; and (iii) absorption, which is the extent to which an individual is fully concentrated or engrossed in learning. In other words, individuals engaged with learning are energised by it, find it significant, and become highly engrossed in it (Schaufeli et al., 2002).

Learning engagement is well-established as an influential factor in improving academic performance, achievement, persistence, and retention (Awang- Hashim et al., 2015; Bicket et al., 2010; Maguire et al., 2016; Trompetter et al., 2017). Studies such as those by Jung and Lee (2018), Kim (2014), and Soffer and Cohen (2019) have also shown promising evidence of learning engagement as an effective indicator of online learning quality and educational effectiveness. These studies, therefore, highlight the fact that learning engagement remains one of the critical concerns of educational institutions, especially higher institutions (Abdullah et al., 2015; Kotera & Ting, 2021; Trowler & Trowler, 2010), and underscore the importance of examining it at the tertiary level. To this end, it is imperative to identify and examine the significant factors that may predict learning engagement, and this includes flourishing.

Flourishing has been referred to as an individual's capability, optimism, purpose in life, positive relationships, and self-esteem (Benlahcene, 2020). It is linked to outcomes such as personal and educational growth (Noori & Ashrafganjoe, 2018), academic achievements (Coffey et al., 2016; Datu, 2018), motivation (Benlahcene, 2020; Datu et al., 2017; Datu et al., 2020), self-regulation (Garzón-Umerenkova et al., 2018), as well as subjective well-being and physical wellness (Coffey et al., 2016). Given their relatively cost-effective nature (Forsman et al., 2015; Kobau et al., 2011), it is understandable that interventions targeting flourishing mental health or high levels of well-being have become one of the most sought approaches for addressing academic and mental health problems (Hone et al., 2014). Therefore, in this respect, the real university challenge is to help students to flourish not only academically but also in all aspects of their university lives. In particular, higher education should consider implementing systemic changes that support flourishing at an institutional level, not just at an individual one.

Studies have also evidenced that flourishing relates to goal-setting (Noori & Ashrafganjoe, 2018) in such a way that setting the right goals can get people close to achieving their vision and elevating well-being. Notably, it has been associated with different types of goals, such as mastery-approach goals (i.e., goals that focus on the development of competence for its own sake) and performance-approach goals (i.e., goals that focus on the demonstration of competence relative to others (Datu et al., 2020). Martin (2011) and Martin and Liem (2010) even suggested that mastery and performance approach goals can be integrated to form personal best goals. Personal best goals are "*specific, challenging, and competitively self-referenced goals involving a level of performance or effort that meets or exceeds an individual's previous best*" (Ginns et al., 2018, p. 533). An example of such goals includes improving one's efforts to perform better than before. Previous studies have found that personal best goals significantly predicted students' learning engagement (Benlahcene, 2020; Burns, Martin, & Collie, 2018), academic achievement (Collie et al., 2016), and behavioural, emotional, and cognitive engagements (Ramshe et al., 2019), with some highlighting its potential role as a mediator variable (Benlahcene, 2020; Collie et al., 2016).

Based on the studies reviewed, it can be deduced that there might be a possibility that flourishing and personal best goals predict students' learning engagement, with personal best goals having the potential to mediate the relationship between flourishing and learning engagement. However, with the exception of studies by Benlahcene (2020) and Datu (2018), limited research has examined the full spectrum of personal best goals concerning students' flourishing and learning engagement. Investigating these variables is crucial as they have been shown to affect students' well-being and are particularly prevalent during the COVID-19 pandemic. In response to the gaps identified, this study examined the extent to which flourishing may be associated with personal best goals and learning engagement.

Drawing from the Broaden-and-Build theory of positive emotions (Fredrickson, 2001), we theorised that learning engagement is related to flourishing and personal best goals. The theory suggests that positive emotions help expand awareness and are the seeds to build relevant personal coping resources and responses, which, in turn, could increase human flourishing and well-being. As a broadening component of the Broaden-and-Build theory, flourishing is anticipated to enhance affective and cognitive processes by generating interest in the broader context of learning. Meanwhile, personal best goals function as the basis of an individual's decision to put effort toward learning, with specific and challenging goals tending to result in an increased effort put forth

by the individual. Within the context of this study, it is anticipated that flourishing could influence learning engagement via its impact on personal best goals. More specifically, the study hypothesised that flourishing would significantly predict higher personal best goals and learning engagement. We also hypothesised that personal best goals would mediate the relationship between flourishing and learning engagement (see Figure 1).

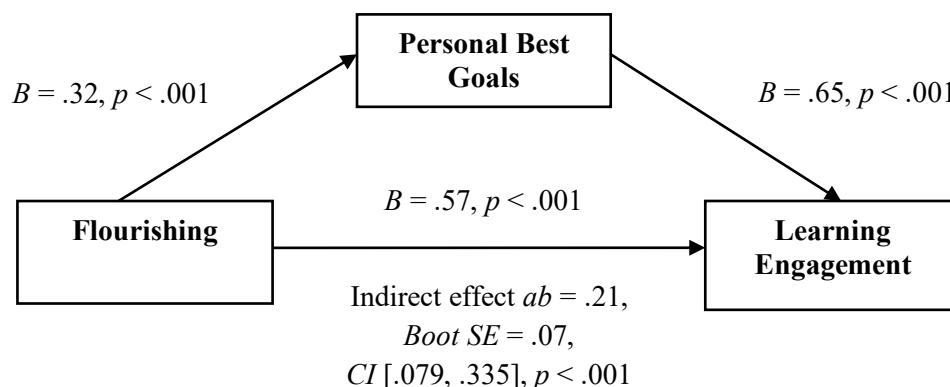


Figure 1: Mediation Model Linking Flourishing, Personal Best Goals and Learning Engagement in University Students

MATERIALS & METHODS

Participants

Data were collected from a sample of 206 university students ($M_{age} = 22.12$; $SD_{age} = 1.57$), with more females (76.2%) responding to the survey than males (23.8%). All of them fulfilled the inclusion criteria of (i) being aged between 18 and 26 years; (ii) being enrolled in any university programmes; and (iii) can read and understand the English language. Coming from various courses, 20.9% of the participants were in their first year, 22.8% in the second year, 30.6% in the third year, 23.3% in the fourth year, and 2.4% in the fifth year of their studies. The majority of them were Malay (92.7%), followed by Chinese (2.4%), Indian (2%), Indonesian (2%), and others (1%). Table 1 presents the demographic characteristics of the participants.

TABLE 1
Demographic Characteristics of Participants ($n = 206$)

	Frequency	Percentage (%)	<i>M</i> and <i>SD</i>
Gender			
Male	49	23.8	
Female	157	76.2	
Age			
18 - 19	19	9.2	<i>M</i> = 22.12 ; <i>SD</i> = 1.57
20 - 21	44	21.4	
22 - 23	113	54.9	
24 - 25	28	13.6	
26 - 27	2	0.9	
Level of Study			
Year 1	43	20.9	
Year 2	47	22.8	
Year 3	63	30.6	
Year 4	48	23.3	
Year 5	5	2.4	
Ethnicity			
Malay	191	92.7	
Chinese	5	2.4	
Indian	4	2	
Indonesian	4	2	
Others	2	0.9	
Programmes			
Psychology / Counselling	63	30.6	

Accountancy/ Finance / Banking / Economics / Business / Management / Entrepreneurship	32	15.5
Medicine / Health	15	7.3
Engineering / Technology	15	7.3
Sciences / Computer Science / Statistics / Mathematics	15	7.3
English / Language	14	6.8
Architecture / Facility / Building	14	6.8
Art / Social Sciences	12	5.8
Education	11	5.3
Communication / Media	10	4.9
Religion	5	2.4

Research Design and Procedure

A cross-sectional design was used in this study, where the participants answered an anonymous online survey. Developed in Google form, the survey was pre-tested on ten participants who met the inclusion criteria to ensure the clarity of its contents and eliminate issues that may arise before the main data collection, as per recommended by Baker (1994) and Polit, Beck, and Hungler (2001). According to Bradburn, Sudman, and Wansink (2004), samples for pilot tests may range from at least 10 participants to as high as 50 (p. 358), which are deemed adequate to obtain sufficient useful data while minimising research costs. Our pilot participants indicated that the survey was understandable and that the layout was easy to follow. A link to the survey was then distributed through social media platforms such as WhatsApp, Instagram, and Twitter. All data from the Google Form is populated into a spreadsheet and analysed using IBM SPSS 22.0.

Ethics approval was obtained from the Authors' university before data collection began. Prior to the commencement of the study, the developers of the scales were contacted to get permission to use their scales in the study. An informed consent form, which explained the objective of the study and the approximate duration to answer the survey, was provided in the first part of the survey. The form also contained a provision assuring confidentiality, anonymity, personal data protection, and the right to withdraw without consequences.

Measures

Participants completed a questionnaire containing three scales discussed below. The items were used in their original language (i.e., English) because university students in Malaysia are bilingual and, for the most part, use English as the medium of instruction in their university education. The questionnaire was pre-tested on ten participants to ensure clarity, appropriateness, and practical relevance. The participants indicated that the questionnaire was understandable, and the layout was easy to follow.

Flourishing: Students' flourishing was assessed using the Flourishing Scale by Diener et al. (2010). Its eight items are rated on a seven-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). The scale score is the sum of items, with higher scores reflecting higher levels of flourishing. The Cronbach's alpha coefficient of the scale in the present study was $\alpha = .86$, indicating good internal consistency.

Personal best goals: The four-item Personal Best Scale (Martin, 2006) was used to measure students' personal best goals. Each item was answered using a seven-point Likert scale, ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Total scores can range from 4 to 28, with high scores reflecting high levels of personal best goals. In the present study, the internal consistency for the scale was excellent ($\alpha = .92$).

Learning engagement: Learning engagement was evaluated using the Utrecht Work Engagement Scale for Students (UWES-9S; Schaufeli et al., 2006). According to Carmona-Halty et al. (2019), this scale, which consisted of nine items, can be used in measuring students' activities, such as students' learning engagement, because they can be regarded as "work". Participants responded to a Likert-type rating scale from 0 (Never) to 6 (Always). The UWES-9S has three subscales, i.e., vigour, dedication, and absorption, each with three items. The scale score is based on a sum of all item scores, ranging from 0 (lowest possible) to 54 (highest possible), with higher scores representing higher learning engagement. Apart from the overall score of learning engagement, specific scores for all subscales can be computed by adding the corresponding items. In the present study, all internal consistencies were good, i.e., overall scale: $\alpha = .93$; vigour: $\alpha = .82$; dedication: $\alpha = .86$; and absorption: $\alpha = .81$.

RESULTS

Preliminary Check and Analysis

Assumption checking was conducted for missing data, normality, outliers, multicollinearity, and homoscedasticity underlying regression analyses. All the variables had no data entry errors with no missing data. The results of the Q-Q plot exhibit normality because most of the observations for all variables appear to be in a straight line, while the P-P plot for the model suggested that the residuals were normally distributed. The maximum value of Cook's distance in the data was .1022, which is less than the criterion = 1 (Tabachnick & Fidell, 2017), indicating that no outliers were detected. Tolerance values are all above the cut-off value of .1 (Field, 2018), and the variance inflation factor (VIF) values are all smaller than 10 (Field, 2018), demonstrating that there is no multicollinearity in the data. Finally, the Durbin-Watson statistic showed that homoscedasticity is met as the obtained value was close to 2 (Durbin-Watson = 1.83), with the plot of standardised residuals vs standardised predicted values showing no apparent signs of funnelling, as recommended by Field (2018).

Descriptive Statistics and Correlational Analysis

The results of descriptive statistics in Table 2 showed that participants reported a mean score of 42.65 ($SD = 6.98$) for flourishing, a mean score of 23.62 ($SD = 3.93$) for personal best goals, and a mean score of 36.72 ($SD = 9.79$) for learning engagement. The highest mean score of participants' learning engagement was dedication ($M = 12.88$, $SD = 3.51$), followed by absorption ($M = 12.29$, $SD = 3.49$) and vigour ($M = 11.55$, $SD = 3.67$).

Pearson correlation results showed that there were moderate, positive relationships between flourishing and personal best goals, $r(204) = .572$, $p < .01$, as well as between flourishing and learning engagement, $r(204) = .556$, $p < .01$. The results also indicate that personal best goals are significantly and positively associated with learning engagement, $r(204) = .493$, $p < .01$ (see Table 2). Both flourishing and personal best goals also correlated positively and significantly with the subscales of UWES-9S. The strongest correlations were found between flourishing and dedication, $r(204) = .548$, $p < .01$, and the weakest for the relationship between personal best goals and vigour, $r(204) = .399$, $p < .01$.

TABLE 2
Intercorrelations among the Variables ($n = 206$)

Variable	<i>M</i>	<i>SD</i>	<i>α</i>	1	2	3	3a	3b	3c
1 Flourishing	42.65	6.98	.86	-	.572**	.556**	.476**	.548**	.508**
2 Personal best goals	23.62	3.93	.92		-	.493**	.399**	.511**	.450**
3 Learning engagement	36.72	9.79	.93			-	.905**	.930**	.920**
3a Vigour	11.55	3.67	.82				-	.754**	.730**
3b Dedication	12.88	3.51	.86					-	.810**
3c Absorption	12.29	3.49	.81						-

**Correlation is significant at the .01 level (two-tailed).

Regression and Mediation Analyses

Regression analysis was performed to test the direct effects of flourishing and personal best goals on learning engagement. The results showed that both flourishing ($B = .57$, $\beta = .41$, $p < .001$) and personal best goals ($B = .65$, $\beta = .26$, $p < .001$) are significant predictors of learning engagement. The model accounts for 35.4% of the variance in learning engagement, $F(2, 203) = 55.70$, $p < .001$. Therefore, it can be concluded that higher flourishing and personal best goals are associated with higher learning engagement.

Next, a nonparametric bootstrapping procedure (Hayes & Scharkow, 2013; Preacher & Hayes, 2008) was used to examine whether personal best goals mediated the relationship between flourishing and learning engagement. This procedure has become the preferred method for testing mediation due to its ability to test the indirect effect (ab) irrespective of the normality of the sampling distribution (Hayes & Scharkow, 2013). The mediation is statistically significant at the .05 level if the indirect effect's bootstrapping confidence intervals (CIs) do not include zero (Hayes, 2017). Consequently, the total effect (c), the direct effect (c'), and the indirect effect (ab) were estimated in this study using Model 4 of PROCESS macro (Hayes, 2017), 5000 bootstrap samples for bias correction, and 95% confidence intervals (CIs).

Results showed a significant indirect effect of flourishing, through personal best goals, on learning engagement ($B = .21$, $Boot SE = .07$, and $Boot CI [.079, .335]$), indicating personal best goals mediated the relation between flourishing and learning engagement, with higher learning engagement among those participants with higher flourishing scores. The total effect of flourishing on learning engagement is $B = .78$, $SE = .08$, and $CI [.618, .941]$, while its direct effect is $B = .57$, $SE = .09$, and $CI [.380, .761]$. A summary of these results is depicted in Table 3 and Figure 1.

TABLE 3
Mediation Effects of Personal Best Goals on the Relationship between Flourishing and Learning Engagement

Regression paths	<i>B</i>	<i>SE</i>	<i>t</i>	95% CI	
				Lower	Upper
Total effect <i>c</i> (FL on LE; PBG not used)	.78	.08	9.54	.618	.941
Direct effect <i>c'</i> (FL on LE considering PBG)	.57	.09	5.91	.380	.761
Mediation path <i>a</i> (FL on PBG)	.32	.03	9.96	.259	.386
Mediation path <i>b</i> (PBG on LE)	.65	.17	3.79	.312	.987
Indirect effect (<i>ab</i>) with 95% CI	.21	.07 [‡]		.079	.335

Notes:

FL = Flourishing; PBG = Personal best goals; LE = Learning engagement; *B* = Unstandardised coefficient; CI = Confidence interval; [‡]BootSE

DISCUSSION AND IMPLICATIONS

The results obtained in this study are consistent with the existing literature on the importance of flourishing in increasing students' personal best goals and learning engagement, especially in the ongoing COVID-19 pandemic. In particular, the study demonstrates that flourishing significantly predicted personal best goals - a result aligns with Benlahcene's (2020) study, which revealed that flourishing correlated with personal best goals. Meanwhile, flourishing as a significant predictor of learning engagement suggests that those who adhere to more positive emotions are more likely to engage in learning. This result, therefore, supports earlier research by Datu (2018), which reported that flourishing predicts the behavioural and emotional engagements of Filipino students. Later research has further contributed new findings where flourishing significantly predicts behavioural, emotional, cognitive, and agentic engagements (Benlahcene, 2020).

In addition, both flourishing and personal best goals are found to be positively and significantly associated with learning engagement. These findings suggest that university students who display higher flourishing and have higher personal best goals are more likely to partake in their learning with a higher level of effort. Finally, the result that shows a significant indirect effect of flourishing on learning engagement via personal best goals deepens the current understanding of the influence of flourishing on students' learning and well-being. Consistent with results obtained by Benlahcene (2020), it is reasonable to imply that university students who are flourishing are more likely to be engaged in learning because they have higher personal best goals.

This study offers a theoretical contribution to the literature by positioning flourishing and personal best goals within the wider context of the Broaden-and-Build theory (Fredrickson, 2001). More specifically, it provides an explanation for how flourishing leads to the deployment of vigour, dedication, and absorption processes, which constitute engagement as conceptualised by Schaufeli et al. (2002) and the simultaneous fostering of personal best goals. As such, it makes an important contribution to the study of flourishing, personal best goals, and learning engagement in university students, something which is lacking in the extant literature during the pandemic period.

The study's findings provide support for a growing body of work that emphasises the importance of flourishing for enhancing learning engagement. Educators, counsellors, and mental health practitioners in higher education institutions are recommended to develop or conduct interventions or programmes that maximise students' potential to achieve positive academic functioning. Such interventions can enhance students' competency, self-determination, and meaning of life, particularly those with motivation, academic achievement, and self-discipline issues. In addition, these interventions can help promote students' positive emotions, positive traits, and engagement in learning. Hence, the study supports the potential value of social-psychological prosperity in the educational setting by demonstrating that flourishing can help students in academic functioning.

While efforts have been made to ensure the robustness of this study, several limitations were unavoidable. First, because most participants were from one particular university in Malaysia, it is inappropriate to generalise the results to students from other universities in the country or abroad. Therefore, future research should expand the

sample of participants to students from other universities and countries. Second, the data in this study is cross-sectional, which prevents analysing behaviour over time or inferring causality between variables. A longitudinal design could address these issues and offer a more meaningful understanding of the variables under investigation.

CONCLUSION

The study has highlighted the experience of university students on flourishing, personal best goals, and learning engagement during the COVID-19 pandemic. To reiterate, we found that flourishing predicted personal best goals and the three aspects of learning engagement (i.e., vigour, dedication, and absorption), indicating that students with higher flourishing have higher personal best goals and maintain greater learning engagement. Hence, these results suggest that flourishing is a crucial factor that should be considered in educational research. Our mediation analyses confirmed that personal best goals play an important role in mediating the relationship between flourishing and learning engagement, demonstrating that perceptions of flourishing indirectly affect learning engagement through personal best goals. Hence, to improve learning engagement, educators in higher learning institutions might want to encourage students to set a personal best goal within their daily teaching and learning activities. This study extends the conceptual and empirical understanding of flourishing and personal best goals by providing practical guidance for educators in facilitating learning engagement and increasing students' contributions to and involvement with their educational process. More broadly, our findings are consistent with growth mindset beliefs that every student is capable of learning given the right opportunities, support, and access to productive strategies (Dweck, 2006; 2012). As online learning is becoming the new normal in making education accessible, it is hoped that this study can stimulate further research and discussion concerning flourishing, personal best goals, and learning engagement in students.

ACKNOWLEDGEMENTS

Ethical approval for this study was obtained from the Department of Psychology, International Islamic University Malaysia (Reference Number: PSYC/FYP-ETHIC/S7/02-2021-004). A note of thanks is accorded to all participants for their involvement in the study. We are also grateful to Professor Wilmar B. Schaufeli (Utrecht University, the Netherlands), Professor Andrew J. Martin (University of New South Wales, Australia), and authors of the Flourishing Scale (<https://eddiener.com/scales/9>) for permission to use their scales. This study was self-funded, and the Authors declare they have no competing interests.

REFERENCES

- Abdullah, M. C., Teoh, H. C., Roslan, S., & Uli, J. (2015). Student engagement: Concepts, development and application in Malaysian universities. *Journal of Educational and Social Research*, 5(2), 275-284. <https://doi.org/10.5901/jesr.2015.v5n2p275>
- Ali, I., Narayan, A. K., & Sharma, U. (2020). Adapting to COVID-19 disruptions: Student engagement in online learning of accounting. *Accounting Research Journal*, 34(3), 261-269. <https://doi.org/10.1108/ARJ-09-2020-0293>
- Arslan, G., Yıldırım, M., Karataş, Z., Kabasakal, Z., & Kılınc, M. (2020). Meaningful living to promote complete mental health among university students in the context of the COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 20, 930-942. <https://doi.org/10.1007/s11469-020-00416-8>
- Awang-Hashim, R., Kaur, A., & Noman, M. (2015). The interplay of socio-psychological factors on school engagement among early adolescents. *Journal of Adolescence*, 45, 214-224. <https://doi.org/10.1016/j.adolescence.2015.10.001>
- Baker, T. L. (1998). *Doing Social Research* (3rd Ed.). McGraw-Hill Inc.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209-223. <https://doi.org/10.1108/13620430810870476>
- Benlahcene, A. (2020). Flourishing and student engagement in Malaysian university students: The mediating role of personal best (PB) goals. *The Asia-Pacific Education Researcher*, 31, 1-10. <https://doi.org/10.1007/s40299-020-00544-8>
- Bicket, M., Misra, S., Wright, S. M., & Shochet, R. (2010). Medical student engagement and leadership within a new learning community. *BMC Medical Education*, 10, 20. <https://doi.org/10.1186/1472-6920-10-20>
- Bolliger, D. U., & Martin, F. (2021). Factors underlying the perceived importance of online student engagement strategies. *Journal of Applied Research in Higher Education*, 13(2), 404-419. <https://doi.org/10.1108/JARHE-02-2020-0045>
- Bradburn, N. M., Sudman, S., & Wansink, B. (2004). *Asking Questions: The Definitive Guide to Questionnaire Design - For Market Research, Political Polls, and Social and Health Questionnaires*. John Wiley & Sons.

- Burns, E. C., Martin, A. J., & Collie, R. J. (2018). Adaptability, personal best (PB) goals setting, and gains in students' academic outcomes: A longitudinal examination from a social cognitive perspective. *Contemporary Educational Psychology, 53*, 57-72. <https://doi.org/10.1016/j.cedpsych.2018.02.001>
- Carman, K. L., Dardess, P., Maurer, M., Sofaer, S., Adams, K., Bechtel, C., & Sweeney, J. (2013). Patient and family engagement: A framework for understanding the elements and developing interventions and policies. *Health Affairs, 32*(2), 223-231. <https://doi.org/10.1377/hlthaff.2012.1133>
- Coffey, J. K., Wray-Lake, L., Mashek, D., & Branand, B. (2016). A multi-study examination of well-being theory in college and community samples. *Journal of Happiness Studies, 17*(1), 187-211. <https://doi.org/10.1007/s10902-014-9590-8>
- Collie, R. J., Martin, A. J., Papworth, B., & Ginns, P. (2016). Students' interpersonal relationships, personal best (PB) goals, and academic engagement. *Learning and Individual Differences, 45*, 65-76. <https://doi.org/10.1016/j.lindif.2015.12.002>
- Datu, J. A. D. (2018). Flourishing is associated with higher academic achievement and engagement in Filipino undergraduate and high school students. *Journal of Happiness Studies, 19*(1), 27-39. <https://doi.org/10.1007/s10902-016-9805-2>
- Datu, J. A. D., King, R. B., & Valdez, J. P. M. (2017). The academic rewards of socially-oriented happiness: Interdependent happiness promotes academic engagement. *Journal of School Psychology, 61*, 19-31. <https://doi.org/10.1016/j.jsp.2016.12.004>
- Datu, J. A. D., Labarda, C. E., & Salanga, M. G. C. (2020). Flourishing is associated with achievement goal orientations and academic delay of gratification in a collectivist context. *Journal of Happiness Studies, 21*(4), 1171-1182. <https://doi.org/10.1007/s10902-019-00122-w>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems, 49*(1), 5-22. <http://dx.doi.org/10.1177/0047239520934018>
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*(2), 143-156. <https://doi.org/10.1007/s11205-009-9493-y>
- Dweck, C. S. (2006). *Mindset: The New Psychology of Success*. New York: Random House.
- Dweck, C. S. (2012). Mindsets and human nature: Promoting change in the Middle East, the schoolyard, the racial divide, and willpower. *American Psychologist, 67*, 614-622. <https://doi.org/10.1037/a0029783>
- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th Ed.). SAGE Publications.
- Forsman, A.K., Wahlbeck, K., Aaro, L.E., Alonso, J., Barry, M.M., Brunn, M., Cardoso, G., ..., & Värnik A. (2015). Research priorities for public mental health in Europe: Recommendations of the ROAMER project. *European Journal Public Health, 25*(2), 249-54. <https://doi.org/10.1093/eurpub/cku232>
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Garzón-Umerenkova, A., de la Fuente, J., Amate, J., Paoloni, P. V., Fadda, S., & Pérez, J. F. (2018). A linear empirical model of self-regulation on flourishing, health, procrastination, and achievement, among university students. *Frontiers in Psychology, 9*, 1-12. <https://doi.org/10.3389/fpsyg.2018.00536>
- Ginns, P., Martin, A. J., Durksen, T. L., Burns, E. C., & Pope, A. (2018). Personal best (PB) goal-setting enhances arithmetical problem-solving. *The Australian Educational Researcher, 45*(4), 533-551. <https://doi.org/10.1007/s13384-018-0268-9>
- Graffigna, G. (2017). Is a transdisciplinary theory of engagement in organized settings possible? A concept analysis of the literature on employee engagement, consumer engagement and patient engagement. *Frontiers in Psychology, 8*, 872. <https://doi.org/10.3389/fpsyg.2017.00872>
- Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (2nd Ed.) The Guilford Press.
- Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter? *Psychological Science, 24*(10), 1918-1927. <https://doi.org/10.1177/09567976134801>
- Hone, L. C., Jarden, A., Schofield, G. M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of well-being. *International Journal of Wellbeing, 4*(1), 62-90. <https://doi.org/10.5502/ijw.v4i1.4>
- Jung, Y., & Lee, J. (2018). Learning engagement and persistence in massive open online courses (MOOCs). *Computers and Education, 122*, 9-22. <https://doi.org/10.1016/j.compedu.2018.02.013>
- Kappelman L. A., McLean E. R. (1994). User engagement in information system development, implementation, and use of information technologies. In *1994 Proceedings of the Twenty-Seventh Hawaii International Conference on System Sciences*, 512-521. <https://doi.org/10.1109/HICSS.1994.323467>
- Kelders, S. M., Van Zyl, L. E., & Ludden, G. D. (2020). The concept and components of engagement in different domains applied to e-health: A systematic scoping review. *Frontiers in Psychology, 11*, 926. <https://doi.org/10.3389/fpsyg.2020.00926>

- Kim, J. R. (2014). The structural relationship among intrinsic motivation, learning strategies, academic engagement, and academic achievement: Focusing on gender differences of high school students. *Asian Journal of Education*, 15(1), 93-113. <https://doi.org/10.15753/aje.2014.15.1.005>
- Kobau, R., Seligman, M. E., Peterson, C., Diener, E., Zack, M. M., Chapman, D., & Thompson, W. (2011). Mental health promotion in public health: Perspectives and strategies from positive psychology. *American Journal of Public Health*, 101(8), e1–e9. <https://doi.org/10.2105/AJPH.2010.300083>
- Kotera, Y., & Ting, S. H. (2021). Positive psychology of Malaysian university students: Impacts of engagement, motivation, self-compassion, and well-being on mental health. *International Journal of Mental Health and Addiction*, 19, 227-239. <https://doi.org/10.1007/s11469-019-00169-z>
- Lederer, A. M., Hoban, M. T., Lipson, S. K., Zhou, S., & Eisenberg, D. (2020). More than inconvenienced: The unique needs of US college students during the COVID-19 pandemic. *Health Education, and Behaviour*, 48(1), 14-19. <https://doi.org/10.1177%2F1090198120969372>
- Li, J., Yang, Z., Qiu, H., Wang, Y., Jian, L., Ji, J., & Li, K. (2020). Anxiety and depression among general population in China at the peak of the COVID-19 epidemic. *World Psychiatry*, 19(2), 249-150. <https://doi.org/10.1002/wps.20758>
- Maguire, R., Egan, A., Hyland, P., & Maguire, P. (2017). Engaging students emotionally: The role of emotional intelligence in predicting cognitive and affective engagement in higher education. *Higher Education Research & Development*, 36(2), 343-357. <https://doi.org/10.1080/07294360.2016.1185396>
- Martin, A. J. (2006). Personal bests (PBs): A proposed multidimensional model and empirical analysis. *British Journal of Educational Psychology*, 76(4), 803-825. <https://doi.org/10.1348/000709905X55389>
- Martin, A. J. (2011). Personal best (PB) approaches to academic development: Implications for motivation and assessment. *Educational Practice and Theory*, 33(1), 93-99. <https://doi.org/10.7459/ept/33.1.07>
- Martin, A.J., & Liem, G.A. (2010). Academic personal bests (PBs), engagement, and achievement: A cross-lagged panel analysis. *Learning and Individual Differences*, 20(3), 265-270. <https://doi.org/10.1016/j.lindif.2010.01.001>
- Noori, S., & Ashrafganjoe, M. (2018). Flourishing EFL learner’s goal setting and self-regulation by positive psychology intervention. *Journal for the Study of English Linguistics*, 6(1), 81-93. <https://doi.org/10.5296/jsel.v6i1.13558>
- Polit, D. F., Beck, C. T., & Hungler, B. P. (2001). *Essentials of Nursing Research: Methods, Appraisal, and Utilization* (5th Ed.). Lippincott Williams & Wilkins.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behaviour Research Methods*, 40(3), 879-891. <https://doi.org/10.3758/BRM.40.3.879>
- Ramshe, M. H., Ghazanfari, M., & Ghonsooly, B. (2019). The role of personal best goals in EFL learners' behavioural, cognitive, and emotional engagement. *International Journal of Instruction*, 12(1), 1627-1638. <https://doi.org/10.29333/iji.2019.121103a>
- Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology*, 105(3), 579–595. <https://doi.org/10.1037/a0032690>
- Savage, M. J., James, R., Magistro, D., Donaldson, J., Healy, L. C., Nevill, M., & Hennis, P. J. (2020). Mental health and movement behaviour during the COVID-19 pandemic in UK university students: Prospective cohort study. *Mental Health and Physical Activity*, 19, 100357. <https://doi.org/10.1016/j.mhpa.2020.100357>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational And Psychological Measurement*, 66(4), 701-716. <https://doi.org/10.1177%2F0013164405282471>
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71-92. <https://doi.org/10.1023/A:1015630930326>
- Soffer, T., & Cohen, A. (2019). Students’ engagement characteristics predict success and completion of online courses. *Journal of Computer Assisted Learning*, 35(3), 378-389. <https://doi.org/10.1111/jcal.12340>
- Tabachnick, B. G., & Fidell, L. S. (2017). *Using Multivariate Statistics* (6th Ed.). Pearson Education.
- Tan, C. (2020). The impact of COVID-19 on student motivation, community of inquiry and learning performance. *Asian Education and Development Studies*, 10(2), 308-321. <https://doi.org/10.1108/AEDS-05-2020-0084>
- Trompeter, H., de Kleine, E., & Bohlmeijer, E. (2017). Why does positive mental health buffer against psychopathology? An exploratory study on self-compassion as a resilience mechanism and adaptive emotion regulation strategy. *Cognitive Therapy and Research*, 41, 459-468. <https://doi.org/10.1007/s10608-016-9774-0>
- Trowler, V., & Trowler, P. (2010). *Student Engagement Case Studies. Deliverable 3 for the Higher Education Academy Student Engagement Project*. Higher Education Academy, New York.