



(RESEARCH ARTICLE)



THE MODERATING EFFECT OF BASIC PSYCHOLOGICAL NEEDS SATISFACTION ON THE RELATIONSHIP BETWEEN ACADEMIC MOTIVATION AND WELL-BEING OF COLLEGE STUDENTS IN SELECTED PRIVATE HIGHER EDUCATION INSTITUTIONS IN NORTH CALOOCAN

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ABSTRACT

College students experience academic, social, financial, and personal challenges that may influence their academic motivation and psychological well-being. Guided by Self-Determination Theory, this study examined the relationship between academic motivation and well-being and tested whether basic psychological need satisfaction moderated this relationship among third- and fourth-year college students in selected private higher education institutions in North Caloocan. A quantitative descriptive-correlational research design was employed. Data were collected from 164 respondents selected through proportionate stratified random sampling from a population of 285 eligible students across three participating institutions. The Academic Motivation Scale, Basic Psychological Need Satisfaction and Frustration Scale, and Mental Health Continuum–Short Form were used. Descriptive statistics, Spearman's rank correlation, and General Linear Model moderation analysis with 5,000 bias-corrected and accelerated bootstrap samples were employed. Respondents demonstrated high intrinsic motivation ($M = 5.50$) and extrinsic motivation ($M = 5.97$), while amotivation was low ($M = 3.22$). Psychological well-being had the highest well-being mean ($M = 3.27$), while social well-being had the lowest ($M = 2.57$). Intrinsic and extrinsic motivation were significantly and positively associated with well-being, while amotivation was not significantly related. Basic psychological need satisfaction was high overall ($M = 4.47$), with relatedness highest ($M = 4.85$). The moderation model was significant, $F(3, 160) = 23.48$, $p < .001$, $R^2 = .306$; however, the interaction between academic motivation and need satisfaction was not significant ($B = -0.091$, $p = .362$). Basic psychological need satisfaction significantly predicted well-being ($B = 4.127$, $p < .001$). The findings support the importance of autonomy, competence, and relatedness as direct contributors to student well-being and suggest that student support initiatives should cultivate need-supportive educational environments.

Keywords: Academic Motivation, Basic Psychological Needs, College Students, Self-Determination Theory, Well-Being, Higher Education

1 INTRODUCTION

College students face academic, financial, social, and personal challenges that influence their learning experiences and overall quality of life. Promoting students' psychological well-being has therefore become an important concern in higher education. Institutions increasingly seek learning environments that allow students to flourish not only academically but also emotionally, psychologically, and socially. Basic psychological need satisfaction (BPNS) is a construct within self-determination theory (SDT) that concerns the extent to which individuals experience satisfaction of autonomy, competence, and relatedness. According to Ryan & Deci (2017, 2020), environments that support these needs promote motivation, engagement, and psychological well-being. Research has consistently linked satisfaction of basic psychological needs with academic persistence, engagement, and positive psychological functioning. Research has consistently linked satisfaction of basic psychological needs with academic persistence, engagement, and positive psychological functioning. Unmet needs have been linked to emotional exhaustion, stress, and poorer functioning (Estacio et al., 2023; Cleofas, 2020). This is especially true in the case of the Philippines, where college students are faced with academic stress, financial problems and adjustment problems. While local studies have looked at student mental health and academic motivation, there have been relatively few studies on positive psychological resources such as BPNS in relation to student well-being. Academic motivation is also important, as students differ not only in the amount of motivation but also in the type of motivation. Intrinsic motivation reflects engagement because of interest or enjoyment, while extrinsic motivation involves engagement for valued outcomes, rewards, or pressures. Amotivation refers to the absence of intention to engage. Meta-analytic evidence indicates that intrinsic and more autonomous forms of motivation are generally associated with adaptive educational and psychological outcomes (Howard et al., 2021; Bureau et al., 2022).

In the local setting, Alfonso et al. (2023) examined mindset, academic motivation, and academic success among nursing students in Caloocan City. However, that study did not examine psychological well-being or the proposed moderating role of BPNS. There is also limited published evidence focused specifically on private higher education institutions in North Caloocan. This creates a contextual gap because private institutions serve a substantial portion of Philippine higher education students.

Guided by SDT, the present study examined academic motivation as the independent variable, BPNS as the proposed moderator, and well-being as the dependent variable. Well-being was operationalized through emotional, psychological, and social well-being using the Mental Health Continuum–Short Form (MHC-SF). The study sought to determine the levels of academic motivation, well-being, and BPNS; examine the relationship between academic motivation and well-being; and test whether BPNS significantly moderated that relationship.

2 MATERIALS AND METHODS

2.1 Research Design

The study employed a quantitative descriptive-correlational research design. Descriptive statistics were used to determine the levels of academic motivation, well-being, and basic psychological need satisfaction. Spearman's rank correlation was used to examine associations between academic motivation and well-being, while General Linear Model moderation analysis was used to test whether BPNS changed the strength of the relationship between academic motivation and well-being.

2.2 Participants and Sampling

The study population consisted of 285 qualified third- and fourth-year college students from three selected private higher education institutions in North Caloocan. Cochran's formula, using a 95% confidence level, 5% margin of error, and population proportion of .50, yielded a minimum sample of 164 respondents. Proportionate stratified random sampling was used to distribute the sample across the participating institutions, followed by a fishbowl technique for respondent selection. The final sample consisted of 164 participants.

2.3 Instruments

Academic motivation was assessed using the 28-item Academic Motivation Scale (AMS) developed by Vallerand et al. (1992). Basic psychological need satisfaction was assessed using the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) developed by Chen et al. (2015), covering autonomy, competence, and relatedness. Well-being was assessed using the 14-item Mental

Health Continuum–Short Form (MHC-SF), covering emotional, social, and psychological well-being. The instruments were translated into Filipino and reviewed by three experts for content, language, semantic equivalence, and cultural

relevance. A pilot test with 30 students outside the final sample was conducted. The translated AMS obtained an overall Cronbach's alpha of .696, BPNSFS .714, and MHC-SF .791.

2.4 Data Collection and Analysis

Ethical approval and institutional permissions were secured before data collection. Participation was voluntary and based on informed consent, with confidentiality and the right to withdraw maintained throughout the study. Data were analyzed using Jamovi version 2.7.2. Means described the levels of the study variables, Spearman's rho assessed monotonic relationships, and GAMLj General Linear Model moderation analysis tested the interaction effect. Bias-corrected and accelerated bootstrapping with 5,000 samples was used, and statistical significance was evaluated at $\alpha = .05$.

3 RESULTS AND DISCUSSION

3.1 Academic Motivation

Respondents demonstrated high intrinsic motivation ($M = 5.50$). Intrinsic motivation to know obtained the highest subscale mean ($M = 5.85$), followed by intrinsic motivation toward accomplishment ($M = 5.65$) and intrinsic motivation to experience stimulation ($M = 5.23$). Extrinsic motivation was also high ($M = 5.97$), with external regulation ($M = 6.11$), identified regulation ($M = 6.06$), and introjected regulation ($M = 5.74$). Amotivation was low ($M = 3.22$). These results suggest that respondents generally retained strong reasons for engaging in higher education, including interest, personal development, career goals, and valued outcomes. The pattern is consistent with SDT, which distinguishes motivation by quality as well as quantity (Ryan & Deci, 2020).

3.2 Well-Being

Overall well-being obtained a mean per item of 3.01. Psychological well-being had the highest mean ($M = 3.27$), followed by emotional well-being ($M = 3.20$), while social well-being had the lowest mean ($M = 2.57$). The findings indicate generally positive psychological functioning, while the comparatively lower social well-being suggests a need to strengthen students' belonging, social connectedness, and meaningful participation in the academic community. This pattern is compatible with multidimensional models of mental health in which emotional, psychological, and social functioning represent distinct but related aspects of well-being (Keyes, 2002).

3.3 Relationship Between Academic Motivation and Well-Being

Spearman's rank correlation showed significant positive relationships between intrinsic motivation and emotional well-being ($r_s = .29, p < .001$), social well-being ($r_s = .39, p < .001$), and psychological well-being ($r_s = .29, p < .001$). Extrinsic motivation was also positively related to emotional well-being ($r_s = .25, p < .001$), social well-being ($r_s = .30, p < .001$), and psychological well-being ($r_s = .23, p = .003$). Amotivation was not significantly related to emotional well-being ($r_s = -.07, p = .406$), social well-being ($r_s = .11, p = .181$), or psychological well-being ($r_s = -.03, p = .745$). These findings are consistent with research showing that more adaptive forms of academic motivation tend to be associated with positive psychological outcomes (Howard et al., 2021; Bureau et al., 2022).

Table 1: Summary of Key Descriptive Results

Variable	Mean	Interpretation
Intrinsic motivation	5.50	High
Extrinsic motivation	5.97	High
Amotivation	3.22	Low
Overall well-being	3.01	Positive frequency
Psychological well-being	3.27	Highest well-being dimension
Social well-being	2.57	Lowest well-being dimension
Basic psychological need satisfaction	4.47	High
Relatedness	4.85	Highest BPNS dimension

Note. BPNS = basic psychological need satisfaction.

3.4 Basic Psychological Need Satisfaction

Overall basic psychological need satisfaction obtained a grand mean of 4.47. Relatedness had the highest mean ($M = 4.85$), followed by autonomy ($M = 4.30$) and competence ($M = 4.27$). The results indicate that respondents frequently experienced supportive relationships and belongingness, while autonomy and competence were also generally present. The prominence of relatedness is consistent with SDT's proposition that meaningful interpersonal connection is a basic psychological need that supports positive functioning.

3.5 Moderating Effect of Basic Psychological Need Satisfaction

The moderation model was statistically significant, $F(3, 160) = 23.48$, $p < .001$, and explained 30.6% of the variance in well-being ($R^2 = .306$; adjusted $R^2 = .293$). However, the interaction between academic motivation and BPNS was not statistically significant ($B = -0.091$, $SE = 0.099$, $\beta = -.055$, $t = -0.913$, $p = .362$, 95% BCa CI $[-0.273, 0.076]$). Thus, BPNS did not significantly moderate the relationship between academic motivation and well-being in this sample.

In contrast, BPNS significantly and positively predicted well-being ($B = 4.127$, $SE = 0.533$, $\beta = .520$, $t = 7.746$, $p < .001$, 95% BCa CI $[3.257, 5.164]$). Academic motivation itself was not a significant predictor in the moderation model ($B = 0.298$, $p = .167$). The findings therefore provide stronger support for a direct contribution of psychological need satisfaction to well-being than for a conditional moderating effect. From an educational perspective, institutions may benefit from strengthening environments that provide students with meaningful choices, opportunities to develop competence, and supportive interpersonal relationships.

Table 2: Moderation Model Summary

Statistic	Value	Interpretation
$F(3, 160)$	23.48 , $p < .001$	Overall model significant
R^2	.306	30.6% variance explained
Academic motivation $\times$ BPNS	$B = -0.091$, $p = .362$	Not significant
BPNS	$B = 4.127$, $p < .001$	Significant positive predictor
Academic motivation	$B = 0.298$, $p = .167$	Not significant in moderation model

4 CONCLUSION

The study found that third- and fourth-year college students from selected private higher education institutions in North Caloocan demonstrated high intrinsic and extrinsic academic motivation and low amotivation. Overall well-being was positive, with psychological well-being obtaining the highest mean and social well-being the lowest. Intrinsic and extrinsic motivation were significantly and positively associated with emotional, social, and psychological well-being, whereas amotivation was not significantly related to the three dimensions.

Basic psychological need satisfaction was generally high, particularly relatedness. However, BPNS did not significantly moderate the relationship between academic motivation and well-being. Instead, BPNS was found to significantly and positively predict well-being. The findings therefore suggest that autonomy, competence, and relatedness may function primarily as direct psychological resources supporting student well-being rather than as a condition that changes the strength of the motivation–well-being relationship.

Higher education institutions may use these findings to strengthen student-centered practices, autonomy-supportive instruction, competence-building opportunities, peer and mentoring programs, and counseling or wellness initiatives that foster belonging and psychological functioning. Future research may examine other moderators, include public institutions and other geographical areas, and use longitudinal designs to better clarify temporal and causal relationships.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The author declares that there is no conflict of interest concerning the publishing of this paper. No financial, personal, or professional relationships influenced the conduct, interpretation, or reporting of this research.

Statement of ethical approval

Participation was voluntary and based on informed consent, and the respondents were selected through proportionate stratified random sampling with the necessary institutional approvals. Completed questionnaires and electronic data files were stored securely, and respondents' identities were protected. The author declares responsibility for the integrity of the research and manuscript and reports no conflict of interest based on the information provided in the manuscript. The author must supply any institutional ethics approval details, authorship contribution statements, and copyright declarations not specified in the manuscript before submission.

Statement of informed consent

The study observed ethical research procedures by informing respondents of the purpose of the research, the voluntary nature of participation, their right to withdraw without negative consequences, and the confidentiality of the information provided.

REFERENCES

- [1] Abuan, M. D. G., Bhargava, A., Chatterjee, N., Dastur, S. K., Domeyeg, K. D., Garcia, F. F. L. U., Gerdan, S. C. P., Gujarkar, A. E., Jagtap, M. C., Narcise, J. T. G., Ostan, F. S., Palos, K. P., Miranda, S. C., & Valenzuela, S. J. N. (2021). Self-reported assessment of medical students' academic motivation for online learning during the COVID-19 pandemic in a private medical school in Caloocan. Manila Central University College of Medicine. HERDIN. <https://www.herdin.ph/index.php/herdin-home?cid=83126>
- [2] Algharaibeh, S. A. S. (2021). The construct validity of Vallerand's Academic Motivation Scale (AMS). *Education Research International*, 2021, 5546794. <https://doi.org/10.1155/2021/5546794>
- [3] Adetunji, J. E. (2022, November 27). Research suggests one way to prevent depression and anxiety is a strong sense of connection at high school. <https://theconversation.com/research-suggests-one-way-to-prevent-depression-and-anxiety-is-a-strong-sense-of-connection-at-high-school-193939>
- [4] Alfonso, S. A. J. L., Cordova, C. R., & Delos Santos, C. V. (2023). Mindset, academic motivation, and academic success among BSN students in a higher educational institution in Caloocan City. *International Journal of Research Publication and Reviews*, 4(11), 453–465. <https://doi.org/10.55248/gengpi.4.1123.113003>
- [5] Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., & Kessler, R. C. (2021). WHO World Mental Health International College Student Initiative: Prevalence and Distribution of Mental Disorders in College Students. *Journal of Abnormal Psychology*, 130(4), 399–414. <https://doi.org/10.1037/abn0000582>
- [6] Bailey, T. H., & Phillips, L. J. (2016). The influence of motivation and adaptation on students' subjective well-being, meaning in life and academic performance. *Higher Education Research & Development*, 35(2), 201–216. <https://doi.org/10.1080/07294360.2015.1087474>
- [7] Bernardo, A. B. I., Ganotice, F. A., Jr., & King, R. B. (2016). Motivation gap and achievement gap between public and private high schools in the Philippines. *The Asia-Pacific Education Researcher*, 25(4), 657–667. <https://doi.org/10.1007/s40299-016-0305-4>
- [8] Bordey, Hana. GMA Integrated News & HANA BORDEY, GMA Integrated News. (2024, October 1). CHED: More college students cited mental health as a reason for dropping out. GMA News Online. <https://www.gmanetwork.com/news/topstories/nation/922218/ched-more-college-students-cited-mental-health-as-reason-for-dropping-out/story>
- [9] Bureau, J. S., Howard, J. L., Chong, J. X. Y., & Guay, F. (2022). Pathways to student motivation: A meta-analysis of antecedents of autonomous and controlled motivation. *Review of Educational Research*, 92(1), 46–72. <https://doi.org/10.3102/003465432111042426>
- [10] Cabato, L. (2024, June 19). CHED: Special approaches needed to address mental health. *INQUIRER.net*. <https://newsinfo.inquirer.net/1952743/ched-special-approaches-needed-to-address-mental-health-among-students>
- [11] Cadavis, F. B. d. V. (2024). Students' need satisfaction: Relationship with psychological and cognitive engagement. *International Journal of Research Studies in Education*, 13(18), 87–102. <https://doi.org/10.5861/ijrse.2024.24154>

- [12] Cadevida, J. M., Dela Cruz, M. A., Santos, R. P., & Villanueva, K. A. (2024). Academic motivation and well-being among college students: Basis for a student support program. *Psychology and Education: A Multidisciplinary Journal*, 22, 1–15. <https://www.ejournals.ph/article.php?id=30690&>
- [13] Casquejo, A. M. V., Obenza, D. M. N., Catabas, J., Gorrero, A., Remoroza, J. B., & Navarro, A. L. N. (2025). The Nexus Between Belongingness and Self-Esteem in University Students. *Journal of Tertiary Education and Learning*, 3(1), 7–11. <https://doi.org/10.54536/jtel.v3i1.3782>
- [14] Cleofas, J. V. (2020). Student involvement, mental health and quality of life of college students in a selected university in Manila, Philippines. *International Journal of Adolescence and Youth*, 25(1), 435–447. <https://doi.org/10.1080/02673843.2019.1670683>
- [15] Couto N, Antunes R, Monteiro D, Moutão J, Marinho DA, Cid L. Basic psychological need and subjective well-being in Portuguese older people. *Anales de Psicología / Annals of Psychology*. 2020;36(2):340–7. <https://revistas.um.es/analesps/article/view/349561>. Accessed 13 Jul 2023.
- [16] Das, D., & Hangsing, E. (2025). Exploring satisfaction of basic psychological needs in relation to academic engagement of undergraduate students. *The International Journal of Indian Psychology*, 13(3), 2467–2474. <https://doi.org/10.25215/1303.227>
- [17] Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- [18] DeVilla, M. A. (2023). Test development of motivational self-regulation strategies of Filipino students (Master's thesis, De La Salle University). *Animo Repository*. https://animorepository.dlsu.edu.ph/etdm_psych/42
- [19] Estacio, R. D., Subida, M. D., Bagaforo, M. V., Abuyuan, M. C., & Dionisio, N. Y. (2023). The mental health of college students in the transition of post-pandemic era in Pampanga, Philippines: An input for psychoeducation programme. *Asia Pacific Journal of Counselling and Psychotherapy*, 14(2), 171–188. <https://doi.org/10.1080/21507686.2023.2281430>
- [20] Génereux, M., Schluter, P. J., Hung, K. K. C., Wong, C. S., Pui Yin Mok, C., O'Sullivan, T., David, M. D., Carignan, M.-È., Blouin-Genest, G., Champagne-Poirier, O., Barbosa, J., Castro Delgado, R., Choi, J., Gurney, J., Hanley, J., Kingdom, M., Levasseur, M., Masino, C., Roy, M., ... Roy, M. (2021). One virus, four continents, eight countries: An interdisciplinary and international study on the psychosocial impacts of the COVID-19 pandemic among adults. *International Journal of Environmental Research and Public Health*, 18(9), Article 4845. <https://doi.org/10.3390/ijerph18094845>
- [21] Howard, J. L., Bureau, J. S., Guay, F., Chong, J. X. Y., & Ryan, R. M. (2021). Student Motivation and Associated Outcomes: A Meta-Analysis from Self-Determination Theory. *Perspectives on Psychological Science*, 16(6), 1300–1323. <https://doi.org/10.1177/1745691620966789>
- [22] Hutomo, B. A., & Kurniawati, F. (2024). The importance of basic psychological needs satisfaction in higher education: A systematic literature review. *G-COUNS: Jurnal Bimbingan dan Konseling*, 9(1), 233–246. <https://doi.org/10.31316/gcouns.v9i1.6326>
- [23] Jenő, L. M., Adachi, P. J. C., Grytnes, J. A., Vandvik, V., & Deci, E. L. (2021). The effects of Self-Determination Theory on academic motivation and well-being: A meta-analysis. *Educational Psychology Review*, 33(4), 1325–1352. <https://doi.org/10.1007/s10648-020-09558-2>
- [24] Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourish in life. *Journal of Health and Social Behavior*, 43(2), 207–222. <https://doi.org/10.2307/3090197>
- [25] Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, 73(3), 539–548. <https://doi.org/10.1037/0022-006X.73.3.539>
- [26] Leow, T., Li, W. W., Miller, D. J., & McDermott, B. (2025). Prevalence of university non-continuation and mental health conditions, and effect of mental health conditions on non-continuation: A systematic review and meta-analysis. *Journal of Mental Health*, 34(2), 222–237. <https://doi.org/10.1080/09638237.2024.2332812>
- [27] Marco, J., Aquino, C. J., Diaz, A., Magtibay, J. P. A., & Saladaga, J. (2023). Mental health and academic motivation among third-year college TES grantees: A correlational study. *Psychology and Education: A Multidisciplinary Journal*, 11(4), 388–394. <https://doi.org/10.5281/zenodo.8192147>
- [28] Mesurado, B., & Salanga, M. G. (2021). Basic psychological needs and flourishing in Filipino university students. *Philippine Journal of Psychology*, 54(1), 35–58. <https://doi.org/10.35568/pjp.v54i1.1245>
- [29] Omara, E., Zayad, K., Al-Busafi, M., Al-Attayah, A., Al-Rawahi, N., Al-Haramleh, A., Al-Shamli, A., Al-Jadidi, K., & Al-Qaidi, A. (2022). Satisfaction of basic psychological needs and its impact on mental health among undergraduate

- students in select Gulf universities. *Dirasat: Educational Sciences*, 49(1), 317–328. <https://doi.org/10.35516/edu.v49i1.724>
- [30] Ranay, Virgie Lyn A. (2023). Quarantine: A Psychological Burden among College Students of Metro Manila. *International Journal of Advanced Research and Innovative Ideas In Education*, 9(1), 1769-1777. ijariie.com/manuscript/19285
- [31] Ráczová, B., Kaščáková, N., Furstová, J., Hašto, J., & Tavel, P. (2022). well-being of Czech university students: Academic motivation, self-compassion, and self-criticism. *Healthcare*, 10(11), 2135. <https://doi.org/10.3390/healthcare10112135>
- [32] Rocha, K. J. J., & Naparota, L. C. (2025). Basic psychological need satisfaction and basic psychological need frustration and work engagement of the College of Business Administration in Jose Rizal Memorial State University System. *Divine Word International Journal of Management and Humanities*, 4(1), 1386–1404. <https://doi.org/10.5281/zenodo.14998782>
- [33] Ryan, R. M., & Deci, E. L. (2020). Intrinsic and Extrinsic Motivation from a Self-Determination Theory Perspective: Definitions, Theory, Practices, and Future Directions. *Contemporary Educational Psychology*, 61, Article ID: 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- [34] Ryan, R. M., & Vansteenkiste, M. (2023). Self-determination theory: Metatheory, methods, and meaning. In R. M. Ryan (Ed.), *The Oxford handbook of self-determination theory* (pp. 3–30). Oxford University Press.
- [35] <https://doi.org/10.1093/oxfordhb/9780197600047.013.2>
- [36] Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52(4), 1003–1017. <https://doi.org/10.1177/0013164492052004025>
- [37] Vansteenkiste, M., Soenens, B., & Ryan, R. M. (2023). Basic psychological needs theory: A conceptual and empirical review of key criteria. In R. M. Ryan (Ed.), *The Oxford handbook of self-determination theory* (pp. 84–123). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780197600047.013.5>
- [38] Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. <https://doi.org/10.1007/s11031-019-09818-1>
- [39] Waldinger, R. J., & Schulz, M. S. (2023). *The good life: Lessons from the world's longest scientific study of happiness*. Simon & Schuster. <https://www.simonandschuster.com/books/The-Good-Life/Robert-Waldinger/9781982166694>
- [40] Wang, C.K. John et al., 2019. Competence, autonomy, and relatedness in the classroom: understanding students' motivational processes using the self-determination theory, *Heliyon*, Volume 5, Issue 7, e01983. [https://www.cell.com/heliyon/fulltext/S2405-8440\(19\)35604-X](https://www.cell.com/heliyon/fulltext/S2405-8440(19)35604-X)
- [41] WorldHealth Organization (WHO). Prevention and management of mental health conditions in the Philippines. The case for investment.(2021) <https://www.who.int/docs/default-source/wpro---documents/countries/philippines/reports/investment-case-report-mental-health-philippines-2021.pdf?sfvrsn=d0f436e79>
- [42] WHO((2022, June 16).World Health Mental Report. WHO. [https://www.who.int/teams/mental-health-and-substance-use/world-mental-health-report/World Health Organization. \(2022, November 17\). Adolescent mental health](https://www.who.int/teams/mental-health-and-substance-use/world-mental-health-report/World%20Health%20Organization.%20(2022,%20November%2017).%20Adolescent%20mental%20health). <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>
- [43] World Health Organization. (2022). World mental health report: Transforming mental health for all. World Health Organization. <https://www.who.int/publications/i/item/9789240049338>
- [44] Yeo, Z. Z., & Suárez, L. (2022). Validation of the Mental Health Continuum–Short Form: The bifactor model of emotional, social, and psychological well-being. *PLOS ONE*, 17(5), e0268232. <https://doi.org/10.1371/journal.pone.0268232>
- [45] Yu, S., Levesque-Bristol, C., & Maeda, Y. (2022). General need for autonomy and subjective well-being: A meta-analysis of studies based on self-determination theory. *Educational Psychology Review*, 34(4), 2139–2173. [https://selfdeterminationtheory.org/wp-content/uploads/2022/10/2018 YuLevesque-BristolMaeda JoHS.pdf](https://selfdeterminationtheory.org/wp-content/uploads/2022/10/2018%20YuLevesque-BristolMaeda%20JoHS.pdf)
- [46] Zhu, Y., Dolmans, D., Köhler, S.E. et al. Paths to Autonomous Motivation and Well-being: Understanding the Contribution of Basic Psychological Needs Satisfaction in Health Professions Students. *Med.Sci.Educ.* 34, 1331–1342 (2024). <https://doi.org/10.1007/s40670-024-02106-9>