

No more Pygmalion: Teachers' expectations, mattering and self-efficacy in the online classroom

Jun Ren Tung, Jin Chin Hee, Kususanto Ditto Prihadi

Department of Psychology, Faculty of Social Science and Liberal Arts, UCSI University, Kuala Lumpur, Malaysia

Article Info

Article history:

Received Sep 10, 2021

Revised Jun 16, 2022

Accepted Jul 8, 2022

Keywords:

Educational self-efficacy

Online learning

Perceived teachers' expectancy

Societal mattering

ABSTRACT

Studies before the outbreak reported that lecturers' and teachers' expectancy were observable to the students from their classroom behavior and, in turn, affect the students' educational self-efficacy (ES). Our study was conducted to investigate whether the aforementioned finding still holds in the compulsory online learning environment during the COVID-19 pandemic. Online learning was not the only implication of the social distancing policy during the pandemic, any form of social interactions among university students was affected up to the point that they rely more on social media to obtain social feedback that eventually altered the way they evaluate themselves. Because this phenomenon might lead to the way students develop the sense that they matter to their society societal mattering (SM) we hypothesized that SM would be a stronger predictor of ES than the students' perception of the educators' expectancy. Nevertheless, the data we collected from 361 purposively recruited students from universities in Indonesia and Malaysia indicated that their perceptions of teachers' expectancy were no longer a significant predictor of ES when the social mattering was controlled for. Further implications, limitations, and suggestions are discussed.

This is an open access article under the [CC BY-SA](#) license.



Corresponding Author:

Kususanto Ditto Prihadi

Department of Psychology, Faculty of Social Science and Liberal Arts, UCSI University

Bukit Damansara, 50490 Kuala Lumpur, Malaysia

Email: pkditto@gmail.com; prihadi@ucsiuniversity.edu.my

1. INTRODUCTION

Previous studies have indicated that students with higher educational self-efficacy (ES) are more likely to achieve higher levels of academic performance [1]–[3]. The self-efficacy theory by Bandura [4] postulated that students who are high in self-efficacy are more likely to exert and manage their effort to cope with difficult problems and be more persistent in dealing with challenges. Hence, they are likely to fulfill academic tasks successfully which in turn allows them to achieve better grades. In the context of online learning, it has also been reported that students' self-efficacy is positively related to academic achievement [5]–[7].

Due to the COVID-19 outbreak, education institutions in Malaysia and Indonesia must make a shift from traditional on-site classrooms to online as a precautionary measure against the spread of coronavirus [8], [9]. Nevertheless, online classrooms tend to be perceived as a challenging learning environment [10], as there is a lack of opportunities for students to interact with others, lack of students' motivation as well as deficiency of lecturers' cognitive and social presence [11]. Given that students' efficacy beliefs towards their capabilities play a vital role in their motivation, learning, and performance [12], [13], it is important to examine the factors that may influence students' self-efficacy within the online learning environment.

ES is conceptualized as an individual's belief about their competence in accomplishing academic tasks to achieve the desired academic outcomes [4], [14]. Bandura [4] theorized that there are four main sources where individuals may obtain information to evaluate their efficacy in a specific domain, they include: i) Past performance experiences; ii) Observations of others' performance experiences; iii) Others' verbal persuasions; iv) Physiological and emotional states during a performance. It is indicated that students regulate their academic efforts in preparing for the subsequent assessment based on their performances in the preceding assessment [15]. Fatima and Hashmi [16] reported that students find it helpful to learn from the experiences of others, especially for difficult and unfamiliar tasks.

Furthermore, a review by Dinther *et al.* [17] on 39 studies between the years 1990 and 2011 reported that feedback on students' performance is significant to students' self-efficacy; however, the feedback given has to be perceived by the students as realistic and reliable. It has also shown that participants' self-efficacy decreased when they were given negative verbal feedback regarding their physiological responses while performing tasks as compared to those who received neutral feedback [18]. Mixed-method research by Webb-Williams [19] indicated that all four sources significantly influence the development and maintenance of students' self-efficacy in the primary classroom environment.

Nevertheless, the sources of self-efficacy in the on-site learning environment may not be pertinent in the context of online learning. This is because on-site classrooms enable both teachers and students to better communicate and interact, as well as to interpret the social context cues such as facial expressions and body language of others to receive immediate feedback on learning experiences [20]. Teachers could observe students' nonverbal cues and make necessary adjustments or provide feedback per the individual needs of students [21]. Moreover, the presence of continuous classroom interactions in offline classes [22] may serve as a source for students to evaluate their academic abilities. A systematic review of 25 studies between the years 2005 and 2017 has indicated that social influences and teachers' feedback have significant influences on perceived self-efficacy in the context of online learning [23]. However, these factors may not be as effective in the Malaysian context as students tend to switch off webcams during online lessons due to reasons such as poor internet connection and concerns about their physical appearances [24]. Thus, online classrooms might limit the chance of having meaningful exchanges among the individuals involved.

To understand students' ES, teachers' classroom behaviors are emphasized, as students tend to perceive these classroom behaviors as teachers' expectancy towards them that guide them to appraise and value themselves [25]–[27], which is in line with the Symbolic Interactionist theory by Stryker [28]. Concerning this, perceived teachers' expectancy (PTE) is conceptualized as the perceptions that students hold about their teachers' views and beliefs towards their potential performance [29], and these perceptions are developed through teachers' classroom behaviors. Therefore, students would perceive their teachers' classroom behaviors such as being controlling or supportive, as indications of the teachers' expectations for their self-evaluation.

Studies conducted for on-site classrooms have indicated that PTE helps students to develop self-efficacy. Students tend to perceive their teachers as supportive in the classroom when the teachers provide trustworthy communication, competence-related feedback, and motivation in guiding students through tasks, which helps in the development of students' ES through teachers' verbal persuasions [30]. Duchatelet and Donche [31] reported that perceived teachers' autonomy support was positively associated with students' ES, indicating that ES could be enhanced by teachers' non-controlling communication that provides assistance for academic tasks and provides educational competence-related advice. Furthermore, Aldridge and colleagues [32] reported that students' ES was significantly influenced by PTE, suggesting that teachers' support provides students with courage and confidence to execute and complete tasks which can eventually lead to increased students' ES.

Similarly, Overall and colleagues [33] reported that perceived teachers' academic and autonomy supportiveness was related to increased students' ES, suggesting that ES could be enhanced by observations of others' performance that teachers showed guidance on how to accomplish tasks. Another study by Collins and colleagues [34] also indicated that young students' ES was positively predicted by their PTE in terms of teachers' autonomy-supportive behavior. However, Piko and Pinczés [35] reported that PTE in terms of both supportive and controlling classroom behaviors positively predicted students' ES, indicating that not only teachers' supportiveness could enhance ES, but teachers' display of controlling tendency does not necessarily bring negative consequences to students. These inconsistent findings require more research for further elucidation, which is one of the objectives of this current study.

Apart from PTE, societal mattering can be viewed as another factor that is associated with ES. This is because when students feel that they matter to their communities, they tend to increase their engagement and persistence in tasks [36]. In the context of our study, we include university mattering as one of our predictors; university mattering is a form of societal mattering whereby university is seen as a bigger social entity that students encounter a sense of mattering [37]. University mattering refers to the perception held by

students that they can contribute to the university's community that represents their significance to the institution as well as the individual feels of being valued by and connected to the university [38]. When students perceive that they matter to their university's community, they are more likely to take initiative to make meaningful contributions to balance feeling valued with adding value. Self-efficacy is essential to adding value, in which individuals need to nurture their self-efficacy to fulfill their aspiration to make a difference [39]. Thus, it is hypothesized that the students' perceived university mattering positively predicts their ES.

Earlier research has demonstrated that students who perceive that they are valued tend to be more resilient and highly engaged in academic activities [40]. Furthermore, highly resilient students tend to have higher ES [41], [42]. Self-efficacy has been deemed as a critical characteristic that differentiates between students who are resilient and non-resilient [43]. Furthermore, Chang and Chien [44] have demonstrated that students' ES correlates significantly with their academic engagement. Therefore, students who feel that they matter may be highly resilient and engaged in their studies, and this may in turn result in higher ES. In addition, previous findings have indicated a significant positive association between university mattering and ES [38], [45], [46]. Accordingly, it has also been indicated that there is an increase in students' self-efficacy when they sense that they matter to their university [47].

Regarding the online learning environment, the literature has yet to address whether students' ES could be influenced by PTE as teachers' supportive or controlling classroom behavior, or both. Besides, there is a need for more research to provide further clarification on perceived teachers' controlling classroom behavior and students' ES. Moreover, further research is required to investigate the role of societal mattering in students' ES within the online learning environment, as mattering is essential for supporting individuals during the pandemic in which face-to-face interaction and support might not be available [48]. These are important to be addressed to better enhance students' ES in online classrooms as online learning has become mandatory for educational institutions in response to the pandemic. Likewise, this would bring greater insights into factors associated with students' ES in online learning and help to address the challenges associated with online classrooms. Thus, researchers hypothesized that despite the model of both predictors significantly predict ES, we also questioned whether one of them, PTE social mattering (SM) would be insignificant after controlling for each other.

2. RESEARCH METHOD

2.1. Participants

Purposive sampling was utilized to recruit 361 participants who are registered as university students. They had to fulfill the requirements of being students of a university in Malaysia or Indonesia who must comply with 100% online classroom method. The participants were recruited through university authorities and staff voluntarily, without any form of compensation. The participants consisted of 112 men, 152 women, and 97 stated no gender identity. As many as 183 (50.7%) of them were from universities in Malaysia, and 178 (49.3%) were registered as students in universities in Indonesia. Malaysian nationality was represented by 134 (37.1%) of participants, Indonesians were 219 (60.7%), and 8 (2.2%) were of other nationalities. Most of them, 326 (90.3%) were bachelor's degree students, while Masters and Ph.D. were 19 (5.3%) and 16 (4.4%) respectively.

2.2. Materials and data analysis

The ethics review board of our university has given clearance to all of the scales involved in this study, including the demographic items and the informed concern letter. ES scale by imperial college London [49], was utilized to measure the outcome variable of ES; the 5-item samPTE scale measures the overall sense that students have that they can achieve academic outcomes, with the reliability of $\alpha=.87$. Our first predictor, PTE, was measured by the PTE scale [50]; 10 items in this scale were designed to measure perception that teachers focused on controlling behavior (PTEc), while another 10 were for perception that teachers focused on supporting academic achievement (PTEs). Each of the subscales was reliable at $\alpha=.85$ and $\alpha=.78$ respectively. The second predictor of SM was gauged by the university mattering scale (UMS) [51]; this 5-Likert scale of 24 items measured the variable with the reliability of $\alpha=.93$. The data obtained was analyzed by multiple regression technique with statistical product and service solutions (SPSS). Each of the predictor was controlled against each other to see the robustness of the major predictor of this study.

3. RESULTS

As presented in Table 1, the assumption of normality is met in all the variables in this current study. Table 2 depicted the coefficient of each model of the predictor on the outcome variable, where PTEs as a model was not considered a significant predictor of ES (Model 1). On the other hand, PTEc was a significant predictor of ES after controlling for PTEs (Model 2). Nevertheless, Model 3 showed that after controlling for SM, PTEc is no longer a significant predictor of ES, which means that students perceptions of their teachers' online classroom behavior did not have anything significant to do with their ES, which is significantly affected by the levels of their sense that they matter to the university.

Table 1. Assumption of normality

	PTEc	PTEs	SM	ESE
Mean	32.09	2.91	28.19	17.79
Median	32.00	3.00	28.00	18.00
Skewness	.16	-.035	-.056	-.34
Std. Error of skewness	.13	.13	.13	.13
Kurtosis	.20	-.54	-.22	.11
Std. Error of kurtosis	.26	.26	.26	.26

Valid=361, missing=0

Table 2. Coefficient and significance of each predictor

		B	Std. Error	Beta		p
1	(Constant)	17.85	.58		30.58	.00
	PTEs	-.02	.19	-.01	-.11	.91
2	(Constant)	13.63	.93		14.61	.00
	PTEs	-.34	.19	-.09	-1.81	.07
	PTEc	.16	.03	.30	5.65	.00
3	(Constant)	9.33	.84		11.08	.00
	PTEs	-.19	.16	-.05	-1.24	.22
	PTEc	.01	.03	.02	.41	.68
	SM	.31	.02	.60	12.86	.00

Dependent variable: ES

4. DISCUSSION

The present study revealed the PTEs did not significantly predict ES, both as a model and after SM was controlled. This finding is inconsistent with the previous findings [31]–[34] that were conducted in on-site classrooms. As there is a lack of teacher-student interaction in online classrooms, particularly in-person interactions that enable face-to-face communication and physical contact for better emotional and social support [10], [11], it may be relatively challenging for teachers to behave and communicate in a supportive manner. Hence, this may lead to a lack of supportive communication in the online classrooms, which may, in turn, result in less effective verbal persuasion, as the feedback given to students has to be perceived as encouraging and reliable for it to be effective for the development of ES [17]. Besides, while students perceive teachers as academically supportive, the lack of interaction, teachers' cognitive and social presence in the online context [11] may result in inadequate personal attention given to students [9], which may eventually lead to the lack of feedback given to students.

As a model, the PTEc significantly predicted students' ES; however, after controlling for SM, PTEc was no longer significant. This indicates that the premise that PTEc was a significant predictor of ES was drawn before the SM was taken into account, or that such condition might take place only in the in-person sessions. In online classrooms, teachers do not have real control over students' behaviors. This may be due to the difficulty in monitoring and controlling students' behaviors in the online context [52]. There is also a lack of opportunity for teachers to observe and monitor students' behaviors to take control in online classrooms when limited nonverbal and body language are shown on-screen since students tend not to switch on webcams [24]. Furthermore, due to the poor communication between teachers and students in online classrooms [10], teachers may not effectively convey the message that they are controlling students. Hence, while students perceive that teachers are controlling their behaviors, the teachers were not able to control students' behaviors with certainty in the online context, and together with the poor communication involved, these may not be beneficial to students' self-efficacy.

Meanwhile, it is interesting to note that SM significantly predicted ES when controlling for PTE. This finding was in line with the conceptual framework of mattering stating a balance should be achieved between feeling valued and adding value, in that individuals who feel valued would nurture their self-efficacy

to add value to themselves and others [39]. Furthermore, the results were consistent with the findings of Vetro [46]. Students who participated in the interviews reported that they sought help from their professors and approached their peers for assistance when they encountered difficulties in their online courses which allowed them to gain a sense of mattering during the pandemic. This in turn motivated them wanting to do well in college and they were more likely to engage in actions that increased the likelihood of them achieving their desired academic achievement goals, suggesting that they had high ES.

Besides, the results were in line with the past studies that were conducted within the on-site learning environment which demonstrated that mattering is positively associated with ES, suggesting that students who feel matter to their university tend to have higher ES [38], [45], [47]. In addition, past studies conducted before the pandemic have indicated that students who feel valued are more likely to have greater resilience and academic engagement in their learning [36], [40], thus leading to increased ES. This explanation showed consistency with previous studies that indicated ES is significantly positively correlated with academic resilience [41]–[43] and student engagement [44].

Although there is a lack of interaction in online classrooms [24], the past study has reported that there has been an increase in social media use and dependence for staying connected in the online learning environment [53], suggesting that social media platforms may serve as the sources of students' ES. Earlier research conducted before the pandemic demonstrated that social media can be used as a communication tool to promote learning and sharing of personal academic interests within the educational environments [54] and it indicated that ES significantly mediated the positive relationship between the use of social media for educational purposes and academic performance [55]. This suggests that students may observe the learning experiences of their peers and receive academic-related feedback via online communication and interactions on social media platforms, which may, in turn, affect the formation of their self-efficacy beliefs. In the context of our study, students who have a higher level of university mattering are more likely to feel that they are part of the university communities [40], which in turn prone them to use the aforementioned information from social media to evaluate their academic abilities.

4.1. Practical implication

In practice, our study suggests that educational institutions may implement counseling programs or related intervention strategies which aim to foster students' sense of university mattering to enhance their ES in online learning. Besides that, the study emphasizes the importance of addressing verbal persuasion and vicarious learning in online education to promote students' ES. For instance, teachers may encourage their students to switch on their cameras during online classes to increase their interactions as this may also enable the teachers to provide feedback and for students to recognize each other's successful learning experiences. In conjunction with this, teachers may focus on behaving in ways that may enhance students' sense of mattering in the online classrooms, for example, paying more attention to students, appreciating their efforts, and treating them as important.

4.2. Limitation of the study

This study was limited to students' self-reported data. As the study relied solely on students' perceptions, it may be subjected to response biases. Moreover, it tends to be difficult to disentangle the extent that students' perceptions are based on teachers' classroom behaviors from students' individual differences. Future research is suggested to collect both students' and teachers' perceived teaching behaviors which are independent of each other, to enable comparisons and increase the reliability of the reported data. Secondly, due to the cross-sectional nature, causal conclusions cannot be made from this study. It is uncertain whether students' PTE and ES are brought from the previous on-site classrooms, as the data were collected at only a single moment in time. Hence, the suggestion for future research is to conduct a longitudinal study in which data is to be collected for a certain period during online learning. This would help to detect how teachers adapted their classroom behaviors in online learning, how perceived SM may play a role, and the changes in students' ES throughout the online learning. Thirdly, the study was limited to its sample, as it recruited only students from two countries (Malaysia and Indonesia). The generalization of the results may be limited. Therefore, it is suggested for future research to involve student samples from more countries to increase generalizability.

5. CONCLUSION

Our findings add to the body of literature about the significant role of SM in influencing students' ES within the online classrooms as compared to previous studies which indicated the significant positive association between university mattering and ES in the on-site learning environments. Our results suggest that regardless of the students' perceptions of their teachers' online classroom behaviors, as long as the students perceive that they matter to the university, they will be more likely to believe in their capabilities to





accomplish academic tasks. The results underscored the role of SM in influencing ES, as students who have higher levels of mattering tend to have higher ES in the online classrooms. Therefore, future research may further examine the role of societal mattering in ES within the context of online learning.

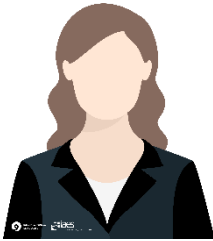
REFERENCES





- [1] S. Ayllón, Á. Alsina, and J. Colomer, "Teachers' involvement and students' self-efficacy: Keys to achievement in higher education," *PLOS ONE*, vol. 14, no. 5, p. e0216865, May 2019, doi: 10.1371/journal.pone.0216865.
- [2] T. Honicke and J. Broadbent, "The influence of academic self-efficacy on academic performance: A systematic review," *Educational Research Review*, vol. 17, pp. 63–84, Feb. 2016, doi: 10.1016/j.edurev.2015.11.002.
- [3] K. Talsma, B. Schütz, R. Schwarzer, and K. Norris, "I believe, therefore I achieve (and vice versa): A meta-analytic cross-lagged panel analysis of self-efficacy and academic performance," *Learning and Individual Differences*, vol. 61, pp. 136–150, Jan. 2018, doi: 10.1016/j.lindif.2017.11.015.
- [4] A. Bandura, W. H. Freeman, and R. Lightsey, "Self-efficacy: The exercise of control," *Journal of Cognitive Psychotherapy*, vol. 13, no. 2, pp. 158–166, Jan. 1999, doi: 10.1891/0889-8391.13.2.158.
- [5] Z. Amri and N. Alasmari, "Self-efficacy of Saudi English majors after the emergent transition to online learning and online assessment during the COVID-19 pandemic," *International Journal of Higher Education*, vol. 10, no. 3, pp. 127–137, Jan. 2021, doi: 10.5430/ijhe.v10n3p127.
- [6] H. R. P. Negara, E. Nurlaelah, Wahyudin, T. Herman, and M. Tamur, "Mathematics self efficacy and mathematics performance in online learning," *Journal of Physics: Conference Series*, vol. 1882, no. 1, p. 012050, May 2021, doi: 10.1088/1742-6596/1882/1/012050.
- [7] K. Talsma, K. Robertson, C. Thomas, and K. Norris, "COVID-19 beliefs, self-efficacy and academic performance in first-year university students: Cohort comparison and mediation analysis," *Frontiers in Psychology*, vol. 12, p. 2289, Jun. 2021, doi: 10.3389/fpsyg.2021.643408.
- [8] W. Ali, "Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic," *Higher Education Studies*, vol. 10, no. 3, pp. 16–25, May 2020, doi: 10.5539/hes.v10n3p16.
- [9] S. Dhawan, "Online learning: A panacea in the time of COVID-19 crisis," *Journal of Educational Technology Systems*, vol. 49, no. 1, pp. 5–22, Sep. 2020, doi: 10.1177/0047239520934018.
- [10] C. Coman, L. G. Țiru, L. Meseșan-Schmitz, C. Stanciu, and M. C. Bularca, "Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective," *Sustainability*, vol. 12, no. 24, p. 10367, Dec. 2020, doi: 10.3390/su122410367.
- [11] F. Ferri, P. Grifoni, and T. Guzzo, "Online learning and emergency remote teaching: Opportunities and challenges in emergency situations," *Societies*, vol. 10, no. 4, p. 86, Nov. 2020, doi: 10.3390/soc10040086.
- [12] M. K. DiBenedetto and D. H. Schunk, "Motivating students and their teachers through self-regulated learning and reframing assessment language," in *Teaching on assessment*, Charlotte: Information Age Publishing, Inc, 2021, pp. 57–64.
- [13] M. Maraghi, S. Abdolreza Mortazavi-Tabatabaei, S. Ahmady, and M. Hosseini, "The relation of educational self-efficacy and motivation among medical education students," *Journal of Advances in Medical Education (JAMED)*, vol. 1, no. 2, pp. 1–5, 2018.
- [14] H. L. Sharma and G. Nasa, "Academic self-efficacy: A reliable predictor of educational performances," *British Journal of Education*, vol. 2, no. 3, pp. 57–64, 2014.
- [15] X. R. Wang, T. Hillier, A. Oswald, and H. Lai, "Patterns of performance in students with frequent low stakes team based learning assessments: Do students change behavior?" *Medical teacher*, vol. 42, no. 1, pp. 111–113, Jan. 2020, doi: 10.1080/0142159X.2019.1670339.
- [16] T. Fatima and K. Hashmi, "Exploring the beliefs of academic self-efficacy among undergraduate male engineering students," *Pakistan Journal of Educational Research*, vol. 3, no. 1, Mar. 2021, doi: 10.52337/pjer.v3i1.29.
- [17] M. van Dinther, F. Dochy, and M. Segers, "Factors affecting students' self-efficacy in higher education," *Educational Research Review*, vol. 6, no. 2, pp. 95–108, Jan. 2011, doi: 10.1016/j.edurev.2010.10.003.
- [18] F. Raeder, L. Karbach, H. Struwe, J. Margraf, and A. Zlomuzica, "Low perceived self-efficacy impedes discriminative fear learning," *Frontiers in Psychology*, vol. 10, p. 1191, Jun. 2019, doi: 10.3389/fpsyg.2019.01191.
- [19] J. Webb-Williams, "Science self-efficacy in the primary classroom: Using mixed methods to investigate sources of self-efficacy," *Research in Science Education*, vol. 48, no. 5, pp. 939–961, Oct. 2018, doi: 10.1007/s11165-016-9592-0.
- [20] L. Al Mahadin and L. Hallak, "The lack of visual interaction in online classes and its effect on the learning experience of students during the covid-19 pandemic: A survey of a Bahraini private university students," *Social Science Research Network Electronic Journal*, 2021, doi: 10.2139/ssrn.3874420.
- [21] Q. Pan, "Nonverbal teacher-student communication in the foreign Language classroom," *Theory and Practice in Language Studies*, vol. 4, no. 12, Dec. 2014, doi: 10.4304/tpls.4.12.2627-2632.
- [22] M. A. A. Farrah and S. M. G. Jabari, "Interaction in online learning environment during Covid -19: Factors behind Lack of interaction and ideas for promoting it," *Bulletin of Advanced English Studies*, vol. 5, no. 2, pp. 47–56, Dec. 2020, doi: 10.31559/BAES2020.5.2.3.
- [23] C. Peechapol, J. Na-Songkhla, S. Sujiva, and A. Luangsodsai, "An exploration of factors influencing self-efficacy in online learning: A systematic review," *International Journal of Emerging Technologies in Learning*, vol. 13, no. 9, pp. 64–86, Sep. 2018, doi: 10.3991/ijet.v13i09.8351.
- [24] B. Tobi, W. H. Osman, A. L. Abu Bakar, and I. W. Othman, "A case study on students' reasons for not switching on their cameras during online class sessions," *International Journal of Education, Psychology and Counseling*, vol. 6, no. 41, pp. 216–224, Jul. 2021, doi: 10.35631/ijepc.641016.
- [25] O. Johnston, H. Wildy, and J. Shand, "A decade of teacher expectations research 2008–2018: Historical foundations, new developments, and future pathways," *Australian Journal of Education*, vol. 63, no. 1, pp. 44–73, Apr. 2019, doi: 10.1177/0004944118824420.
- [26] D. G. Myers, *Social psychology*. Michigan: MI: McGraw Hill, 2015.
- [27] K. Prihadi and M. Chua, "Students' self-esteem at school: The risk, the challenge, and the cure," *Journal of Education and Learning (EduLearn)*, vol. 6, no. 1, pp. 1–14, 2012, doi: 10.11591/edulearn.v6i1.185.
- [28] S. Stryker, *Symbolic interactionism: A social structural version*. Caldwell: NJ: Blackburn Press, 2002.

- [29] C. Rubie-Davies, "Teacher expectations and labeling," in *International Handbook of Research on Teachers and Teaching*, Boston, MA: Springer US, 2009, pp. 695–707. doi: 10.1007/978-0-387-73317-3_43.
- [30] S. Won, S. Y. Lee, and M. Bong, "Social persuasions by teachers as a source of student self-efficacy: The moderating role of perceived teacher credibility," *Psychology in the Schools*, vol. 54, no. 5, pp. 532–547, May 2017, doi: 10.1002/pits.22009.
- [31] D. Duchatelet and V. Donche, "Fostering self-efficacy and self-regulation in higher education: A matter of autonomy support or academic motivation?" *Higher Education Research & Development*, vol. 38, no. 4, pp. 733–747, Jun. 2019, doi: 10.1080/07294360.2019.1581143.
- [32] J. Aldridge, E. Afari, and B. J. Fraser, "Influence of teacher support and personal relevance on academic self-efficacy and enjoyment of mathematics lessons: A structural equation modeling approach," *Alberta Journal of Educational Research*, vol. 58, no. 4, pp. 614–633, 2013.
- [33] N. C. Overall, K. L. Deane, and E. R. Peterson, "Promoting doctoral students' research self-efficacy: Combining academic guidance with autonomy support," *Higher Education Research & Development*, vol. 30, no. 6, pp. 791–805, Dec. 2011, doi: 10.1080/07294360.2010.535508.
- [34] J. S. Collins, E. L. Usher, and A. Butz, "Examining students' perceived autonomy support as a source of self-efficacy in mathematics," in *Poster session presented at the Annual Meeting of the American Education Research Association*, 2015.
- [35] B. Pikó and T. Pinczés, "Autonomy support or direct control? High school students' experience of their teacher's behavior," *European Journal of Mental Health*, vol. 10, no. 01, pp. 106–117, Jun. 2015, doi: 10.5708/EJMH.10.2015.1.7.
- [36] T. L. Hart, "The relationship between online students' use of services and their feelings of mattering," Dissertation, 2016. [Online]. Available: https://digitalrepository.unm.edu/oils_etds/43.
- [37] M. K. France, "Introducing the unified measure of university mattering: Instrument development and evidence of the structural integrity of scores for transfer and native students," Dissertation, James Madison University, 2011. [Online]. Available: <https://commons.lib.jmu.edu/diss201019/63>.
- [38] M. K. France and S. J. Finney, "Conceptualization and utility of university mattering: A construct validity study," *Measurement and Evaluation in Counseling and Development*, vol. 43, no. 1, pp. 48–65, Apr. 2010, doi: 10.1177/0748175610362369.
- [39] I. Prilleltensky, "Mattering at the intersection of psychology, philosophy, and politics," *American Journal of Community Psychology*, vol. 65, no. 1–2, pp. 16–34, Mar. 2020, doi: 10.1002/ajcp.12368.
- [40] G. Flett, A. Khan, and C. Su, "Mattering and psychological well-being in college and university students: Review and recommendations for campus-based initiatives," *International Journal of Mental Health and Addiction*, vol. 17, no. 3, pp. 667–680, Jun. 2019, doi: 10.1007/s11469-019-00073-6.
- [41] S. Cassidy, "Resilience building in students: The role of academic self-efficacy," *Frontiers in Psychology*, vol. 6, pp. 1–14, Nov. 2015, doi: 10.3389/fpsyg.2015.01781.
- [42] N. P. Speight, *The relationship between self-efficacy, resilience and academic achievement among African-American urban adolescent students*. Michigan: ProQuest LLC, 2009.
- [43] S. K. Hamill, "Resilience and self-efficacy: The importance of efficacy beliefs and coping mechanisms in resilient adolescents," *Colgate University Journal of the Sciences*, vol. 35, no. 1, pp. 115–146, 2003.
- [44] D. Chang and W. Cheng Chien, "Determining the relationship between academic self-efficacy and student engagement by meta-analysis," in *Proceedings of the 2015 International Conference on Education Reform and Modern Management*, 2015, vol. 15, doi: 10.2991/ermm-15.2015.37.
- [45] G. Elliott, S. Kao, and A.-M. Grant, "Mattering: Empirical validation of a social-psychological concept," *Self and Identity*, vol. 3, no. 4, pp. 339–354, Oct. 2004, doi: 10.1080/13576500444000119.
- [46] V. Vetro, "College during a pandemic: A qualitative exploration of community college first-generation students' mattering and persistence experiences," *Journal of Higher Education Management*, vol. 36, no. 1, pp. 93–103, 2021.
- [47] M. A. Karaman, A. Chandrika Kumaran, A. Haktanır, and S. Lenz, "Predictors of counselor-in-training students' general self-efficacy," *Mediterranean Journal of Educational Research*, vol. 12, no. 25, pp. 136–149, Oct. 2018, doi: 10.29329/mjer.2018.153.8.
- [48] G. L. Flett and M. Zangeneh, "Mattering as a vital support for people during the COVID-19 pandemic: The benefits of feeling and knowing that someone cares during times of crisis," *Journal of Concurrent Disorders*, vol. 2, no. 1, pp. 106–123, Apr. 2020, doi: 10.54127/almc5515.
- [49] Imperial College London, "Educational self-efficacy scale." Imperial College London, London, 2021. [Online]. Available: <https://www.imperial.ac.uk/education-research/evaluation/what-can-i-evaluate/self-efficacy/tools-for-assessing-self-efficacy/educational-self-efficacy-scale>.
- [50] K. Prihadi, "Influence of students perception on teachers behavior on self-esteem and self efficacy in between class ability grouping," *Universiti Teknologi Malaysia*, 2009.
- [51] M. K. France and S. J. Finney, "What matters in the measurement of mattering?" *Measurement and Evaluation in Counseling and Development*, vol. 42, no. 2, pp. 104–120, Jul. 2009, doi: 10.1177/0748175609336863.
- [52] D. Nambiar, "The impact of online learning during COVID-19: students' and teachers' perspective," *The International Journal of Indian Psychology*, vol. 8, no. 2, pp. 783–793, 2020, doi: 10.25215/0802.094.
- [53] A. Wong, S. Ho, O. Olusanya, M. V. Antonini, and D. Lyness, "The use of social media and online communications in times of pandemic COVID-19," *Journal of the Intensive Care Society*, vol. 22, no. 3, pp. 255–260, Aug. 2021, doi: 10.1177/1751143720966280.
- [54] J. J. Liburd and I.-M. F. Christensen, "Using web 2.0 in higher tourism education," *Journal of Hospitality, Leisure, Sport & Tourism Education*, vol. 12, no. 1, pp. 99–108, Apr. 2013, doi: 10.1016/j.jhlste.2012.09.002.
- [55] K. O. Boahene, J. Fang, and F. Sampong, "Social media usage and tertiary students' academic performance: Examining the influences of academic self-efficacy and innovation characteristics," *Sustainability*, vol. 11, no. 8, p. 2431, Apr. 2019, doi: 10.3390/su11082431.





BIOGRAPHIES OF AUTHORS

Martin Jun Ren Tung     is a graduate research assistant at Psychology Department, Faculty of Social Science and Liberal Arts, UCSI University, Kuala Lumpur. He obtained his psychology degree from HELP University, Subang 2. His research interests include mental health, clinical psychology, and psychological wellbeing. He can be reached at email: 1002060294@ucsiuniversity.edu.my.



Helen Hee Jin Chin     is a graduate research assistant at Psychology Department, Faculty of Social Science and Liberal Arts, UCSI University, Kuala Lumpur, where she is also obtaining her Master's degree in Clinical Psychology. Her research interests include clinical psychology, educational psychology, and mental wellbeing. She can be reached at email: 1002059181@ucsiuniversity.edu.my.



Kususanto Ditto Prihadi     is the head of research and postgraduate studies in the Faculty of Social Science, UCSI University, Kuala Lumpur. Obtained his PhD in Educational Psychology from Universiti Sains Malaysia, his research interests were on the sense of mattering, social media, and other interpersonal relationship contexts. He can be reached at email: pkditto@gmail.com; prihadi@ucsiuniversity.edu.my.