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

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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.

Keywords:
Educational self-efficacy
Online learning
Perceived teachers’ expectancy
Societal mattering

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.

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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

<table>
<thead>
<tr>
<th></th>
<th>PTEc</th>
<th>PTEs</th>
<th>SM</th>
<th>ESE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>32.09</td>
<td>2.91</td>
<td>28.19</td>
<td>17.79</td>
</tr>
<tr>
<td>Median</td>
<td>32.00</td>
<td>3.00</td>
<td>28.00</td>
<td>18.00</td>
</tr>
<tr>
<td>Skewness</td>
<td>.16</td>
<td>-.035</td>
<td>-.056</td>
<td>-.34</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.20</td>
<td>-.54</td>
<td>-.22</td>
<td>.11</td>
</tr>
<tr>
<td>Std. Error of skewness</td>
<td>.13</td>
<td>.13</td>
<td>.13</td>
<td>.13</td>
</tr>
</tbody>
</table>

Table 2. Coefficient and significance of each predictor

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>17.85</td>
<td>.58</td>
<td>30.58</td>
</tr>
<tr>
<td></td>
<td>PTEs</td>
<td>-.02</td>
<td>.19</td>
<td>-.11</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>13.63</td>
<td>.93</td>
<td>14.61</td>
</tr>
<tr>
<td></td>
<td>PTEs</td>
<td>-.34</td>
<td>.19</td>
<td>-.09</td>
</tr>
<tr>
<td></td>
<td>PTEc</td>
<td>.16</td>
<td>.03</td>
<td>.30</td>
</tr>
<tr>
<td>3</td>
<td>(Constant)</td>
<td>9.33</td>
<td>.84</td>
<td>11.08</td>
</tr>
<tr>
<td></td>
<td>PTEs</td>
<td>-.19</td>
<td>.16</td>
<td>-.05</td>
</tr>
<tr>
<td></td>
<td>PTEc</td>
<td>.01</td>
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<td>.02</td>
</tr>
<tr>
<td></td>
<td>SM</td>
<td>.31</td>
<td>.02</td>
<td>.60</td>
</tr>
</tbody>
</table>

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 motivation tend to have higher ES in the online classrooms. Therefore, future research may further examine the role of societal matters in ES within the context of online learning.

REFERENCES


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