The Impact of E-Learning Attitudes and Teacher Self-Efficacy on Psychological Well-Being among College Teachers

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Abstract

The goal of the study was to explore the impact of e-learning attitudes and teacher self-efficacy on psychological well-being among teachers in Arts and Science colleges in Chennai city. The sample consisted of 85 college teachers obtained through snowball sampling. The tools used included the Attitudes of Teachers to Online Teaching, the Teacher Self-Efficacy scale and the Psychological Well-Being scale. Ex-post facto research design was used. Two-way ANOVA was used to measure the impact of e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers. Results showed that there was no interaction effect of e-learning attitudes and teacher self-efficacy on psychological well-being. Additional analyses using independent samples t-test and correlation respectively showed that there were no significant differences in age and years of experience on the study variables and there was a positive relationship between e-learning attitudes and teacher self-efficacy. Conclusions and implications for future studies are discussed.

Keywords: *e-learning attitudes, teacher self-efficacy, psychological well-being, college teachers.*

1. Introduction

Online teaching attitudes

Over the recent years, e-learning has become ever more popular and is gaining wide acceptance as a non-traditional mode for accessing higher education [1]. E-learning is an upcoming method that uses technology to assist student learning. Crucial changes have been seen in the field of education due to technological advancements. Many universities have integrated e-learning tools that have emerged from information technology. Throughout the world, higher learning institutions have been adopting e-learning to support and amplify students' learning and teaching activities [2],[3]. A pedagogue is the most important part for delivery of knowledge through e-learning. E-learning can incorporate all educational activities that are carried out to students working synchronously or asynchronously through electronic gadgets. There are multiple ways of engaging in e-learning activities. The potential of e-learning technologies has qualified higher learning institutions to reach students at a distance conveniently and, increase educational opportunities [4],[5].

Students and educators no longer have to depend exclusively on printed copies of books available in stores, library or other physical materials needed for educational purposes [6]. Notwithstanding, effective execution of e-learning in institutions depends on the educator's attitudes towards it. It is also believed that a positive attitude towards technology is important for its effective implementation. An educators' attitude towards technology is defined as the judgement, affective or evaluative, that the educator holds about technology and his or her perceptions about its utility in the teaching-learning process [7].

Attitude development is considered to be based on affective, cognitive and behavioural information. That is, the person's feelings towards the object, they knowledge of it and their past behaviours towards it affect their attitude. In addition, various factors influencing teachers' attitudes to e-learning include internal and external variables. For instance, teachers' own beliefs about the utility of technology affects their attitude towards it as much as the presence or absence of technology-supportive environment and infrastructure and organizational structure. Additional demographic variables such as gender, years of teaching experience and exposure to online teaching have also been explored for their influence on attitudes to e-learning [7].

Due to the increasing reliance on technology in the field of education, and a transition to non-traditional modes of instruction, it is imperative to understand teachers' attitudes towards e-learning.

Teachers' self-efficacy

Educators' self-efficacy has continuously acquired a significant role in psychological research because of its implications for showing adequacy, informative practices, and for scholastic accomplishment [8],[9]. Studies have demonstrated a wide range of outcomes associated with teachers' self-efficacy. For students, teacher self-efficacy is associated with greater student motivation, positive attitudes towards school, higher self-esteem, higher student achievement and greater class participation [10]. For educators themselves, teacher self-efficacy has been associated with elevated levels of occupation fulfilment, lower levels of

occupation related pressure and face less troubles in managing students' mischievous activities [11].

Self-efficacy, as a socio-affective concept, was introduced by Bandura (1977). Overall terms, efficacy alludes to people's discernments and convictions about their probability to perform at a given degree of achievement and how they might deal with the challenges and difficulties and direct their actions [12]. Teacher self-efficacy, in particular, with an educators' beliefs in their ability to effectively manage their job commitments and associated difficulties, such as student assignments, disciplinary tasks and others [10].

More effective educators are better risk takers who affect more elevated levels of norms in their classes, which thus brings about better academic accomplishment. Although teacher self-efficacy is associated with multiple positive outcomes, it has also been found to be connected with teacher burnout [13]. Connecting the related studies, it tends to be seen that there are still issues connected with teachers' self-efficacy which should be additionally researched.

Psychological well-being

The concept of well-being has received considerable interest in recent years, both in the scientific and lay literature. As such, well-being is frequently cited as a national priority for government policy around the world. Well-being has been examined by theorists from different perspectives. Subjective well-being, for instance, defines well-being as the unique cognitive and affective judgements people have towards their lives [14]. Ryff (1989)[15] and Ryff & Singer (1998) [16], proposed a measure of well-being called psychological well-being as a means bringing objectivity to the well-being concept. The theory of psychological well-being was synthesized from various personality theories and from the philosophical perspective that well-being arises from the pursuit of certain objective goals. Consequently, psychological well-being was theorized to be composed of six dimensions namely, Autonomy, Environmental Mastery, Positive Relations with Others, Purpose in Life, Personal Growth, and Self-acceptance [16]. This is concordant with the World Health Organization's definition of positive mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community" [17].

Psychological well-being, considered as an important measure of well-being for diverse populations based on age, gender and culture, examines the overall well-being of an individual through the aforementioned six dimensions. Autonomy refers to a sense of self-determination; Environmental Mastery is the person's belief in their capability to handle their external environment; Positive Relations with Others refers to the presence of close, quality relations with others; Purpose in Life incorporates the belief that one's life is meaningful and purposeful; Personal Growth refers to the person's sense of continued growth in life and; Self-Acceptance is the positive evaluations one has towards their life [18]. These dimensions together, represent the breadth of well-being.

Need for the study

During the COVID-19 pandemic, one among the large groups of people who were affected were the teachers in India. Due to the changes in the teaching-learning process and the

introduction of e-learning, teachers have been through a lot of stress at the workplace and it has affected their psychological well-being. Teacher self-efficacy is seen to influence their attitudes towards teaching and the teaching-learning process and there is a need to study the influence of e-learning attitudes and teacher self-efficacy on psychological well-being among Indian teachers. The Indian scenario has not only presented with concerns such as quality health care during COVID-19 , but also with restricted resources to handle the e-learning needs of schools. Teachers have gone through undue pressure due these issues and therefore, the present study can throw light on the variables that could influence psychological well-being among teachers.

2. Review of Literature

Zaid, Jamaludin and Abas (2012)[19], investigated the teachers' attitudes and self-efficacy towards using e-learning for teaching undergraduates. Using a survey design, findings showed that teachers' attitudes and self-efficacy regarding e-learning, did not differ by age and gender.

Suri and Sharma (2016)[20], conducted a study on teacher's attitudes towards e-learning. 85 teachers In the study, 85 university teachers participated in the study. The findings showed indicated a favorable bent of teachers towards e-learning. Teachers were in favour of connecting current teaching pedagogies with e-learning. The results indicated no significant gender differences in teachers' attitudes towards technology and e-learning. On exploring the perceptions and opinions of teachers towards blending learning and e-learning, findings showed that 50% of the teachers used ICT in class. 82% teachers prefereed to blend current teaching methods with e-learning and incorporated online material for purpose of study.

In a study by Ramazan, et al (2020)[21], the relationship between teacher self-efficacy and psychological well-being was reviewed. Data was gathered from 412 teachers. Teacher self-efficacy and psychological well-being scales were utilized as data collection tools. In the review, teachers' self-efficacy and psychological well-being were found to be high. Moreover, there was a positive and significant correlation between teachers' self-efficacy and psychological well-being levels. Then again, self-efficacy was viewed as an indicator of psychological well-being of educators.

Hannu, et al (2020)[22], zeroed in on distinguishing the associated connection between teachers' attitudes and their self-efficacy convictions utilizing a cross-lagged panel design path analysis. An aggregate of 1326 teachers took part in an electronic survey. Teachers' self-efficacy convictions were assessed five times and attitudes (attitudes and concerned subscale) three times over three years. The results demonstrated that the two constructs are moderately steady over the measured period. Additionally, self-efficacy had a beneficial outcome over the long haul on the two sorts of attitudes yet not the other way around. This cross-lagged relationship was stronger between efficacy and concerns. These outcomes were comparable among male and female respondents and among beginner and experienced teachers inferring that expanding teacher efficacy for inclusive practices is likely to adjust their attitudes toward positive directions.

A study by Ma et al (2021)[23] took on a mixed-method plan to inspect online teaching self-efficacy (TSE) during COVID-19, its related factors and arbitrators. An example of 351 teachers reflectively revealed their online TSE toward the start and end of COVID-19 school lockdown, with a follow-up of six in-depth interviews. TSE for online guidance didn't significantly increase while that for technology application increased significantly. Absence of involvement with online teaching, partition of teachers from students, school administrative process and unsuitable student scholastic execution were distinguished as the major related factors. A moderation effect of flexibility and teacher burnout on the change in online TSE were analyzed, of which passion burnout was the main mediator toward the change in online TSE. Along these lines presumed that teachers' online TSE for technology application increased among Chinese teachers during COVID-19 school lockdown.

Wang, et al (2021)[24], studied 892 art teachers' attitudes toward online learning, utilizing learning environment, need fulfillment, mental commitment, and behaviors as indicators. Structural equation model was utilized to investigate the relationship between these four aspects during these teachers' participation in an online learning program. The outcomes uncover significant relationships between the learning environment, need fulfillment, mental commitment, and behaviors. Additionally, this study uncovers the group qualities of art teachers, which can really be upheld by online learning programs. These findings give bits of knowledge into how art teachers view and utilize online learning, and hence can shed lights on their professional development.

Dolighan and Owen (2021)[25], looked to recognize how explicit factors of teaching experience, experience of professional development (PD), and teaching supports correlated with teachers' perception of self-efficacy during the transition to online teaching. Teachers' self-efficacy was examined in the domains of student commitment, instructional techniques, classroom management, and computer abilities. The findings of the study showed that teachers were more likely to have higher efficacy during online instruction provided that technology supportive environments and systems were available and easily accessible. These findings emphasize the importance of providing instructional material that guide teachers on the use of technology for online instruction.

3. Problem and Hypothesis

Aim

The present study aims to understand the influence of e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers.

Problem statement

The attitudes of teachers, specifically e-learning attitudes during the COVID lockdown period has contributed to significant concerns in the teaching learning process, while teacher self-efficacy could be a contributor to the psychological well-being of teachers. Therefore, the interaction of e-learning attitudes and teacher self-efficacy on psychological well-being becomes the foundation of the study. The following research questions and objectives were therefore formulated.

Research questions

1. Is there an age difference in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers?
2. Is there a difference in years of experience in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers?
3. Is there an interaction effect between e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers?
4. Is there a relationship between e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers?

Objectives

The primary objectives of the study are:

1. To study the differences in age on e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers.
2. To study the differences in years of experience in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers.
3. To study the interaction effect of e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers.
4. To study the relationship between e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers.

Hypothesis

H.1 There will be no significant age differences in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers.

H.2 There will be no significant difference based on years of experience in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers.

H.3 There will no significant interaction between e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers.

3.a. There will be no significant difference in psychological well-being among college teachers with high and low e-learning attitudes.

3.b. There will be no significant difference in psychological well-being among college teachers with high and low teacher self-efficacy.

H.4 There will be no significant relationship between e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers

4. Methodology

Research Design

An ex-post facto research design was used for the study.

Variables

The independent variables of the study were:

1. Age
2. Years of experience

3. E-learning attitudes
4. Teacher self-efficacy

The dependent variable of the study was:

1. Psychological well-being

Sample

The inclusion criteria for the sample were:

1. College teachers employed in Arts and Science colleges in Chennai.
2. Male and female college teachers.
3. Participants with sufficient proficiency in English.

The exclusion criteria for the sample were:

1. Retired college teachers/participants not currently working.
2. Participants taking treatment for psychological disorders.
3. Participants living abroad.

The sample consisted of 85 college teachers (50 female, 35 male) belonging to young adulthood and middle adulthood, using snowball sampling, from Arts and Science colleges in Chennai.

Procedure

Participants responded to a demographic questionnaire and the standardized scales through google forms. Informed consent was obtained from the participants and debrief forms were sent to the participants after completing the questionnaires. Anonymity and confidentiality of the data was maintained.

Tools used

Psychological wellbeing (PWB) scale

The Psychological Well-Being Scale [15] measures well-being across six dimensions of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. The 18 item scale has been used in various populations. Higher total scores indicate higher levels of psychological well-being.

Teacher self-efficacy scale

The Teacher Self-Efficacy scale [26] is based on Bandura's social cognitive theory. The scale has 10 items based on four major areas of teacher self-efficacy namely, job accomplishment, skill development, social interaction and coping with job stress. Cronbach's alpha ranged between .76 and .82. Test-retest reliability ranged between .65 and .76. Higher total score on the scale indicates higher self-efficacy.

Test of e-learning related attitudes (TeLRA) scale

The TeLRA scale [27] consists of 36 items measuring teachers' attitude towards e-learning in higher learning institutions. Items were based on four dimensions of teacher attitudes namely, benefits of e-learning, challenges of e-learning, attitudes towards using computer systems, and leisure interest towards e-learning innovations and use of computers. Cronbach's alpha was .85. Higher scores show more favourable attitudes to e-learning.

Statistical Analysis

Independent sample t-test was used to measure differences in age and years of experience on e-learning attitudes, teacher self-efficacy and psychological well-being.

Pearson's product moment correlations was used to examine the relationship between e-learning attitudes, teacher self-efficacy and psychological well-being.

Two-way ANOVA was used to examine the interaction between e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers.

5. Results

Table 1. Independent samples t-test for age difference in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers

Study variables	Age group 21-40 years (n=32)		Age group 41-60 years (n=53)		*t(df)*	*p*
	M	*SD*	*M*	*SD*		
E-learning attitudes	102.19	10.53	99.49	8.99	1.20(83)	.21^{NS}
Teacher self-efficacy	34.38	3.56	33.43	5.00	.93(83)	.36^{NS}
Psychological well-being	86.78	8.98	87.25	8.81	-.20(83)	.81^{NS}

NS - Not Significant at 0.05 level

Table 1 shows that there are no significant age differences in the e-learning attitudes, self-efficacy and psychological well-being among college teachers.

Table 2. Independent samples t-test for difference in years of experience in e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers

Study variables	Below 15 years experience (n=44)		Above 15 years experience (n=41)		*t(df)*	*p*
	M	*SD*	*M*	*SD*		
E-learning attitudes	100.25	9.36	100.78	10.02	-2.52(83)	.80^{NS}
Teacher self-efficacy	34.32	3.67	33.22	5.27	1.12(83)	.26^{NS}
Psychological well-being	86.95	8.95	87.20	8.79	-1.25(83)	.90^{NS}

NS - Not Significant at 0.05 level

Table 2 shows that there are no significant differences in years of experience in the e-learning attitudes, self-efficacy and psychological well-being among college teachers.

Table 3. Summary of two-way ANOVA for e-learning attitudes and teacher self-efficacy on psychological well-being among college teachers

Source of variance	Sum of squares	df	Mean square	F
Corrected model	6182.08	76	81.34	1.83^{NS}
Intercept	423042.69	1	423042.69	9.52**
E-learning attitudes	2875.54	30	95.85	2.16^{NS}
Teacher self-efficacy	1574.18	16	98.39	2.21^{NS}
E-learning attitudes*teach-er self-efficacy	1801.71	29	62.13	1.39^{NS}
Error	355.50	8	44.44	

**p<0.01, NS - Not Significant at 0.05 level

Table 3 shows that there are no significant main effects and interaction effects of e-learning attitudes and teacher self-efficacy on the psychological well-being of college teachers.

Table 4.Descriptive statistics and correlations for e-learning attitudes, teacher self-efficacy and psychological well-being among college teachers

Variables	M	SD	E-learning attitudes	Teacher self-efficacy	Psychological well-being
E-learning attitudes	100.51	9.63	_	.33**	.08^{NS}
Teacher self-efficacy	33.79	4.52		_	-.15^{NS}
Psychological well-being	87.07	8.82			_

**p<0.01, NS - Not Significant at 0.05 level

Table 4 shows that there are there is a significant positive correlation between e-learning attitudes and teacher self-efficacy for the sample of 85 college teachers.

6. Discussion

The introduction of e-learning mode of instruction has ushered in a phase of transition for teachers from traditional methods of teaching. Teachers' attitudes to e-learning and their work-based self-efficacy have been identified as factors affecting well-being outcomes such as job stress, burnout, occupational pressures and occupational fulfilment [11], [28].

However, the findings of the present study showed that college teachers with more favourable attitudes to e-learning were not different from teachers with less favourable attitudes on well-being. Similarly, teachers with high teacher self-efficacy reported levels of well-being similar to teachers with low self-efficacy. These findings can be interpreted in light of recent studies done during the COVID-19 pandemic. Ma et al. (2021)[23] found that teachers' self-efficacy was not affected by their transition to online instruction during the pandemic. This was attributed to the teachers' continued use of various features of the traditional teaching process during online instruction. Teachers were found to rely on tried and tested methods of teaching they had used in physical classroom settings, in order to maintain positive student-teacher rapport. In addition, other factors such as student engagement and performance, and the institutional online teaching system were attributed to teachers' level of self-efficacy. It is therefore possible, in the present study, that teachers' self-efficacy did not affect psychological well-being due to the contribution of other factors, mentioned above, that are likely to influence their overall experience of online instruction, and therefore their well-being.

In a similar manner, college teachers' attitudes to e-learning is likely to be determined by their overall experience of online instruction. Previous research has indicated that teachers' e-learning attitudes are influenced by external factors such as infrastructure, and the ease of use of computer systems [7]. Thus, the relationship between e-learning attitudes and psychological well-being is likely to be understood when other variables related to the online instruction experience are studied.

These findings allude to an association between the variables that contribute to the overall online instruction experience. In line with this, the present study found teacher self-efficacy and e-learning attitudes to be positively correlated, implying that teachers with higher self-efficacy are more likely to have favourable attitudes to e-learning and vice-versa. This is similar to the findings of Alamri (2023)[29] where teachers' online self-efficacy was found to predict their perceptions on the benefits of e-learning.

With regard to age and years of experience, the study findings showed that teachers in young adulthood and middle adulthood, having either less than 15 years or more than 15 years of experience, did not differ significantly on their attitudes to e-learning, teacher self-efficacy, and psychological well-being. These findings are supported in part by findings from Kisanga (2016)[7] and Zaid, Jamaludin and Abas (2012)[19] where years of experience was found to be unrelated to teachers' e-learning attitudes and age was unrelated to e-learning attitudes and self-efficacy. The current study's findings regarding these demographic variables indicate that teachers' self-efficacy and their e-learning attitudes are not bound by age and experience. They also indicate the possibility that other features of the e-learning environment such as infrastructure, student-teacher relationship and online teaching practices contribute to the well-being of teachers.

7. Conclusion

The aim of the study was to examine the impact of teacher self-efficacy and e-learning attitudes on psychological well-being of college teachers. The findings show that teacher self-efficacy and e-learning attitudes did not influence psychological well-being. Age and years of experience were not related to the study variables. Teacher self-efficacy and e-learning attitudes were positively correlated.

8. Implications

The study holds implications for future research in the field of e-learning in higher education.

First, since age and experience were not related to the study variables, they are not likely to restrict college teachers' development of teacher self-efficacy and favourable e-learning attitudes during psychological interventions.

Second, the positive relationship observed between teacher self-efficacy and e-learning attitudes warrant further analysis of the mechanism underlying their relationship in the e-learning process.

Third, the absence of a relationship of teacher self-efficacy and e-learning attitudes with psychological well-being lends direction to future studies to investigate other aspects of the online instruction experience and their role on college teachers' well-being.

9. Limitations and Strengths

The study's limitations include a relatively small sample size and the use of non-random sampling method. However, the study sheds light on the influence of pertinent teacher-related variables on well-being for the population of college teachers. It is one among few studies to examine the effect of various psychological and demographic factors on the well-being of teachers in the transition to e-learning.

Conflict of Interest

Authors declare that there is no conflict of interest.

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