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ScienceDirect

Health Professions Education 3 (2017) 50–58

www.elsevier.com/locate/hpe

Development and Validation of the Motivation for Tutoring Questionnaire in Problem-Based Learning Programs

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Received 26 November 2016; received in revised form 7 March 2017; accepted 8 March 2017
Available online 10 March 2017

Abstract

Purpose: There are no published instruments, which measure tutor motivation for conducting small group tutorials in problem-based learning programs. Therefore, we aimed to develop a motivation for tutoring questionnaire in problem-based learning (MTQ-PBL) and evaluate its construct validity.

Methods: The questionnaire included 28 items representing four constructs: tutoring self-efficacy (15 items), tutoring interest (6 items), tutoring value (4 items), and tutoring effort (3 items). Tutors ($n = 158$) from three problem-based medical schools in Egypt, Saudi Arabia and Bahrain rated their perceptions for each item on a 7-point Likert scale. Statistical analyses included examining the factor structure of the questionnaire, the differences between mean scores of each factor as a function of tutoring experience, and the motivation for tutoring scales as predictors of self-rated tutoring skills.

Results: Confirmatory factor analysis indicated that the four-factor theoretical model did not fit with the measurement model. The three items of the tutoring-effort construct were unidentified in the model and four items (three from tutoring self-efficacy and one from tutoring interest) had low regression weights. This ended up with a three-factor structure composed of 21 items representing three main constructs: tutoring self-efficacy (12 items) and tutoring interest (5 items), and tutoring value (4 items). The scores from the 21-item questionnaire demonstrated acceptable fitness indices between the measurement model and the factor structure. Furthermore, the three tutoring motivation subscales demonstrated high internal consistency reliability, significantly correlated with each other and correlated with the self-rated tutoring skills scores. In addition, tutoring efficacy scores significantly increased by years of tutoring experience and predicted 38% of the variance in self-rated tutoring skills scores.

Discussion: Analyzing the tutors' scores of their motivation for PBL tutoring yielded three significantly correlated constructs representing tutoring self-efficacy, tutoring interest and tutoring value. The findings demonstrated high internal consistency reliability of the questionnaire, strong correlation between the three constructs as well as correlations between the constructs and

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Peer review under responsibility of AMEEMR: the Association for Medical Education in the Eastern Mediterranean Region.

http://dx.doi.org/10.1016/j.hpe.2017.03.001

the self-rated tutoring skills scores. Taken together, the current study demonstrates that the newly developed instrument measuring motivation for PBL tutoring exhibits good psychometric properties. The findings in this paper pave the way for further studies for refining the measurement of this construct in different problem-based contexts.

Keywords: Psychometrics; Problem-based curriculum; Teacher motivation; PBL tutorials; Undergraduate education

1. Introduction

In problem-based learning (PBL) medical programs, faculty members are expected to undertake different competing roles such as being a lecturer, a facilitator in small group tutorials, a practicing clinician, and/or a researcher. The role of faculty members in PBL tutorials is considered a paradigm shift from being a content expert who gives information to a facilitator for students learning. This shift could affect the self-efficacy of teachers, and could even create anxiety for tutors, especially if they are non-content experts or they did not receive enough training on tutoring skills. These factors underscore the importance of having faculty members with high level of motivation for tutoring in order to ensure the effectiveness of the PBL tutorials. Despite the importance of the motivational aspect of teachers in education, it has been modestly explored in medical education research.

Several theories have explained the motivation as a construct and its implications in education. The self-determination theory (SDT) distinguishes the behavior of individuals into intrinsic and extrinsic motivation.[1] Extrinsic motivation means that individuals are engaged in an activity for a reason such as receiving a reward.[1,2] In contrast, individuals who are intrinsically motivated work on tasks because they find them enjoyable or satisfactory.[1] In addition, SDT proposes that humans have to fulfill three basic psychological needs in order to be intrinsically motivated: i.e. autonomy, competence and relatedness to others.[3] The social cognitive models of motivation address two main categories of constructs: beliefs about the capabilities for doing an activity and purposes for doing an activity.[4] Teacher efficacy is defined as the teacher's belief in her or his ability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context.[5] Self-efficacy beliefs are grounded on the social cognitive theory of learning, which postulates a triadic reciprocity between personal factors, the behavior, and the environment.[6] Teachers with higher self-efficacy have tendency to develop challenging activities, help students to succeed, and support students who have difficulties.[7,8] Increased teacher efficacy is associated with perceptions of improved outcomes of intervention, satisfaction with results, collaborative team process, and databased decisions.[9] On the other hand, teachers with low self-efficacy usually have difficulties in teaching, lower levels of job satisfaction, and higher levels of job-related stress.[10]

The two inter-related motivation constructs which explain the purpose of doing an activity are interest and task value. Interest indicates the affective and cognitive systems, which are involved in individuals' engagement in an activity or set of activities in a given area.[11] Task value is another multidimensional construct, which consists of four components: attainment value, interest value, utility value or usefulness of the task, and cost.[2] Attainment value refers to the subject's perception of how personally important it is to participate or do well on a given task, while intrinsic or interest value is the enjoyment one gains from doing the task. Utility value indicates how useful the obtained skills are for future goals.[2] Task values are strongly related to individual interest in an activity.[12] Alternatively, finding an activity as interesting can contribute to its value.[13]

Another factor involved in the motivation of teachers is how they rate their own teaching abilities and the effort they are willing to put into teaching based on this estimation.[5] From the perspective of attribution theory, effort is the main attributing factor (to success or failures) which can be controlled by the individual himself (controllability), is changeable (stability), and can be ascribed to the individual (locus of control). In addition, the more effort we put in an activity the more we discover something about working on the activity that makes it interesting.[14]

There are previously published instruments for measuring aspects of motivation in education, including intrinsic motivation inventory,[15] teacher efficacy scale,[16] and teacher efficacy beliefs system-self (TEBS-Self).[17] Furthermore, a previous study developed and validated an instrument for measuring faculty motivation for teaching in higher education based on three main motivation aspects: efficacy, interest, and effort.[18] In

medical education, a recent study developed and validated the physician teaching motivation questionnaire (PTMQ) to measure teaching motivations in hospital-based physicians using the SDT.[19] However, because the scores of motivation measures could vary according to the type of task and context,[20] there is a gap in the literature for developing a valid and reliable instrument for measuring teacher motivation for tutoring in a PBL context. The development of such an instrument can help in self-evaluation of tutors, evaluate tutoring skills training programs and their effects on faculty motivation for tutoring, selection of tutors in PBL programs and studying the role of tutor motivation in the PBL tutorial process as well as its outcomes. The aim of this study is to develop and assess the psychometric properties (validity and reliability) of a questionnaire used for measuring faculty motivation for tutoring in problem-based learning medical programs. Because motivation of teachers could be also affected by the experience of doing a particular task,[21] this study aims also to assess the changes in motivation scores of PBL tutors in relation to their years of tutoring experience.

This study is designed to answer the following questions:

1. What is the validity-evidence for internal structure of the motivation for tutoring questionnaire in problem-based learning (MTQ-PBL)?
2. What is the relationship between the scores of MTQ-PBL and self-rated performance of tutors in PBL tutorials?
3. What are the differences between the scores of MTQ-PBL in relation to tutors' years of experience?

2. Methods

2.1. Study context

This study is conducted in medical schools in three different Middle East countries: Faculty of Medicine, Suez Canal University (FOM-SCU) in Egypt, Qassim University College of Medicine (QUCOM) in Saudi Arabia, and College of Medicine and Medical Sciences, Arabian Gulf University (CMMS-AGU) in Bahrain. The undergraduate medical programs in the three medical schools are similar in the following aspects: (1) The programs are six years duration, with direct entry from the high school, (2) PBL is the main educational strategy during the preclinical phase, (3) Small group tutorials (composed of 8–10 students per group) represent the core teaching/learning method in the preclinical phase of the programs, (4) PBL tutorials are moderated by a faculty member who act as a facilitator, rather than conveying knowledge, and (5) Faculty members are inducted on tutoring after receiving formal training about facilitating small group tutorials.

2.2. Materials

The motivation for tutoring questionnaire in problem-based learning (MTQ-PBL) is designed after conceptualization of the teacher motivation construct. Items used for operationalization of the motivation for PBL tutoring construct were mainly adapted from the intrinsic motivation inventory (IMI)[15] and teacher efficacy questionnaire.[22,23] In addition, a number of new items were developed drawing on research about the role of tutors in problem-based learning tutorials.[24,25] The initial questionnaire consisted of 34 items, and a meeting was held with 19 experts in medical education who rated the closeness of each item to the construct and the possible redundancy of written items. Following the meeting, item wording was refined and six items were deleted due to either their remoteness from the construct or redundancy with other items. The final version of the questionnaire consisted of 28 items representing four scales of tutoring motivation: tutoring self-efficacy (15 items), tutoring interest (6 items), tutoring value (4 items), and tutoring effort (3 items).

2.3. Data collection procedure

The developed questionnaire was distributed to PBL tutors in the three participating medical schools and a representative from each school supervised the data collection process. Tutors were asked to indicate how true each statement for them on a 7-point Likert-like scale ranging from 1 (very untrue of me) to 7 (very true of me). At the end of the questionnaire, tutors were asked to rate their level of professional performance as a PBL tutor on a 7-point scale ranging from 1 (very poor) to 7 (excellent). In addition, the questionnaire was designed to gather other information of the tutors related to gender, medical specialty (basic medical sciences or clinical sciences), and PBL tutoring experience (<2 years, 2–5 years, 6–10 years, or >10 years).

2.4. Statistical analysis

The data were entered and analyzed using IBM SPSS Statistics for Windows Version 22.0 (IBM Corp., Armonk, NY, USA). Data are presented as mean ± SD of each variable. A p-value of ˂0.05 was considered to be statistically significant. To test the construct validity-evidence for the internal structure of the MTQ-PBL scores, confirmatory factor analysis (CFA) was carried out using maximum likelihood estimation (SPSS AMOS software version 22, IBM Corp., Armonk, NY, USA). Different indices were used to evaluate the goodness-of-fitness of the different models compared with the data model: Comparative Fit Index (CFI) assesses overall improvement of a proposed model over an independence model where the observed variables are not correlated and a good model fit is indicated by a CFI value of 0.90 or greater.[26] The *Chi-square* test indicates the amount of difference between expected and observed covariance matrices. The Root Mean Square Error of Approximation (RMSEA) is related to the residuals in the model, and a good model fit is typically indicated by RMSEA value of 0.06 or a value of 0.08 or less is often considered acceptable.[27] Tucker Lewis Index (TLI) or Non-normed Fit Index (NNFI) is another indicator, which is commonly used to determine model fit.[28] To examine the scores of MTQ-PBL subscales as predictors of self-assessment of tutoring skills, a two-stage hierarchical multiple regressions analysis was conducted. The gender, years of experience, and specialties of tutors were entered in step 1, while tutoring motivation scales (tutoring self-efficacy, tutoring interest and tutoring value) were entered at step 2. In addition, *one-way analysis of variance (ANOVA)* was used to analyze the differences in mean MTQ-PBL scores as a function of the years of tutoring experience. To examine the pairwise comparisons of the means, *Post-hoc Bonferroni test* was used.

3. Results

3.1. Demographic characteristics and response rate

Of the 195 total distributed questionnaires, 158 were returned resulting in a response rate of 81.0%. The distribution of tutors from the three medical schools was as follows: 66 tutors (41.8%) from FOM-SCU, 33 tutors (20.9%) from QUCOM, and 59 tutors (37.3%) from CMMS-AGU. Ninety-one tutors were females (57.6%) and 67 were males (42.4%). The experience of faculty in PBL tutoring was distributed as follows: Less than 2 years (n=57, 36.08%), 2–5 years (n= 22, 13.92%), 6 to 10 years (n=40, 25.32%), and > 10 years (n=39, 24.68%). The PBL tutors from basic medical sciences departments were 115 (72.78%), while tutors from clinical departments were 43 (27.22%).

3.2. Construct validity evidence of the questionnaire

Confirmatory factor analysis (CFA) using maximum likelihood estimation was carried out to test the degree of fitness of the observed scores from the 28-item questionnaire with the hypothesized four-factor model. Subjecting the four-factors with the related variables to CFA using structural equation modeling (SEM) indicated that the three items related to the "tutoring effort" scale were not identified in the model. Therefore, the model was tested with 25 items representing three scales (tutoring self-efficacy, tutoring interest and tutoring value). However, three items from the "tutoring self-efficacy" scale and one item from the "tutoring interest" scale had low regression weights (<0.4) with their corresponding scales and the observed scores demonstrated poor fit with the hypothetical three-factor model (Fig. 1). However, the three-factor, 21-item questionnaire demonstrated an overall acceptable fit of the model, resulting in χ^2 [112] = 212.3, $p<0.001$, χ^2 /DF=1.89, comparative fit index (CFI) of 0.90, TLI of 0.90 and root mean square error of approximation (RMSEA) of 0.08. The final version of the questionnaire is shown in Appendix A.

3.3. Internal consistency reliability of the questionnaire

Cronbach's alpha statistics indicated excellent internal consistency reliability of the overall questionnaire (α=0.94). In addition, internal consistency reliability of the two sub-scales of tutoring self-efficacy, tutoring interest and tutoring value were 0.92 and 0.85 and 0.810, respectively.

3.4. Relationships between motivation for PBL tutoring and self-rated tutoring skills

Using Pearson's correlation coefficient, the tutoring self-efficacy, tutoring value and tutoring interest exhibited significant correlations with the scores of self-rated PBL tutoring skills (r=0.75, 0.31 and 0.48 respectively). Furthermore, overall tutoring motivation scores moderately correlated with the scores of self-rated PBL tutoring skills (r=0.58). The scores of MTQ-PBL as predictors for the self-rated skills of PBL tutors (dependent variable) were examined using hierarchical linear regression analysis. The percent of variability in the tutoring skills

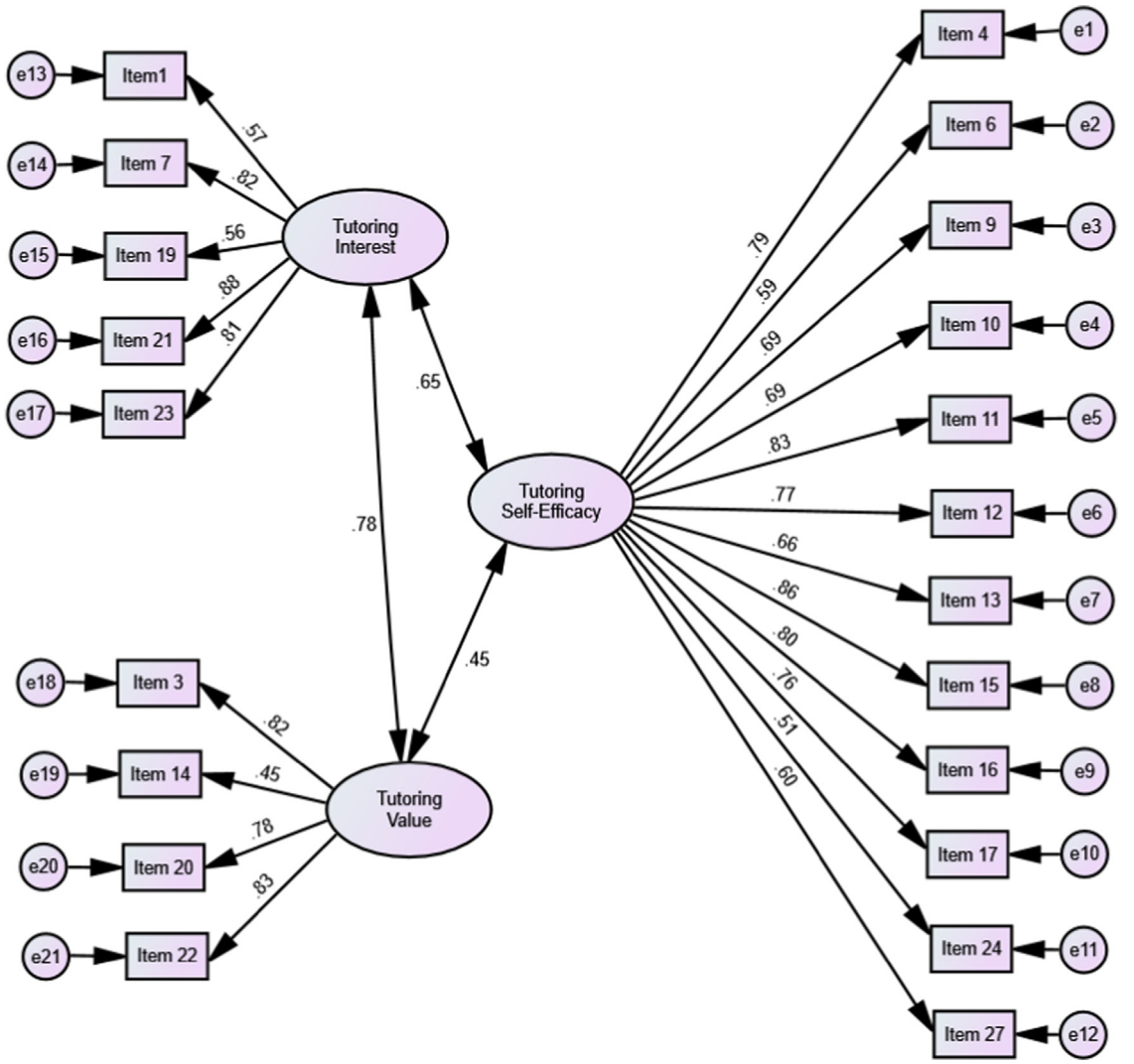

Fig. 1. Confirmatory factor analysis explaining the relationships among the constructs belonging to the motivation for tutoring questionnaire in problem-based learning (MTQ-PBL). Standard regression coefficients show that the tutors' scores from the questionnaire items tap on three latent constructs (tutoring self-efficacy, tutoring interest and tutoring value). Double-headed arrows illustrate the correlation coefficients between the constructs.

scores that can be accounted for by all the predictors (R^2) increased from 20% in step 1 to 56% in step 2 with the addition of tutoring motivation variables. Tutoring self-efficacy made the strongest independent contribution ($\beta = 0.67$) among all the predictors (Table 1).

3.5. Differences between the score of motivation for tutoring questionnaire in problem-based learning in relation to tutoring experience

One way ANOVA indicated significant differences among the means of the tutoring self-efficacy scores as a function of years of tutoring experience (F (3,154)= 20.57, $p < 0$ .001). In addition, differences were found among the means of the tutoring value scores (F (3,154)=3.87, $p=0.01$). Similarly, significant differences were found among the means of the tutoring interest scores (F (3,154)=3.18, $p=0.03$). Finally, significant differences were found between the overall tutoring motivation scores (F (3,154)=8.36, $p < 0.001$) as a function of years of tutoring experience (Table 2). In addition, pairwise comparisons of the means using *Post-hoc Bonferroni* test indicated that tutoring self-efficacy scores of teachers with < 2 years of experience (5.14 ± 0.87) were significantly lower compared with scores of faculty with higher numbers of experience

years (i.e. 2 to 5 years, 6 to 10 years, or more than 10 years). However, differences in tutoring interest scores of faculty with $<$ 2 years of experience (5.27 ± 1.26) were only significantly lower compared with scores of faculty with >10 years of experience (5.96 ± 0.80, $p=0.03$). Furthermore, differences in overall tutoring motivation scores of faculty with <2 years of experience (5.27 ± 0.93) were significantly lower compared with of faculty with higher numbers of experience years (i.e. 2–5 years, 6–10 years, or more than 10 years).

4. Discussion

This study introduces a new instrument for measuring motivation of teachers for conducting small-group tutorials in PBL programs. The results of factor analysis demonstrated that the scores of the MTQ-PBL yielded three main subscales: tutoring self-efficacy (12 items), tutoring interest (5 items) and tutoring value (4 items). In addition, the internal consistency reliability of the overall questionnaire and the three underlying subscales were high. Furthermore, the significant correlations between the self-reported evaluation of tutoring skills and the scores of the three motivation subscales represent a source of criterion-validity evidence for the questionnaire. Taken together, these findings support the evidence for good psychometric properties for the motivation for tutoring questionnaire in problem-based learning.

In the current study, tutoring self-efficacy represents the beliefs of the tutors in successfully conducting small group tutorials in a PBL context. These self-efficacy beliefs are expected to affect the goals, which PBL tutors set, the effort they invest and the resilience they demonstrate during the critical incidents they encounter in PBL tutorials. The current finding that factor analysis of the MTQ-PBL yielded a single construct for tutoring self-efficacy could ostensibly contradict previous studies. However, these results are difficult to compare with previously published literature partly because of task and context specificity of this construct and partly because of the confusion in the literature about conceptualization and operationalization of teacher's self-efficacy. For example, measuring teacher efficacy in high school education using Teachers' Sense of Efficacy Scale (TSES) yielded three constructs: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement.[16,21,29] On the other hand, measuring self-efficacy beliefs of K-6 teachers using Teachers' Efficacy Beliefs System-Self (TEBS-Self) demonstrated a four to five factor pattern structure.[17] These discrepancies called the need for theory and research-based

Table 1
Hierarchical linear regression analysis of the relationship between the self-rated tutoring skills scores (dependent variable) and scores of motivation for tutoring questionnaire in problem-based learning (MTQ-PBL) subscales. β is a measure of how strongly is the predictor variable influences the criterion variable. $R^2=0.20$ for step 1 and $\Delta R^2=0.38$ for step 2.

	Unstandardized Coefficients		β	*P*-value
	B	Std. Error		
Step 1				
(Constant)	4.76	0.23		
Gender	0.08	0.18	0.04	0.68
Years of experience	0.34	0.07	0.43	0.00
Specialty	−0.04	0.18	−0.02	0.83
Step 2				
(Constant)	1.19	0.43		
Gender	0.01	0.14	0.01	0.92
Years of experience	0.07	0.06	0.10	0.21
Specialty	−0.18	0.13	−0.10	0.17
Teacher motivation for tutoring:				
Tutoring self-efficacy	0.77	0.10	0.69	0.00
Tutoring value	−0.10	0.07	−0.11	0.19
Tutoring interest	0.09	0.07	0.12	0.17

Table 2
Differences in the faculty scores of motivation for tutoring questionnaire in problem-based learning (MTQ-PBL) according to their years of tutoring experience. Analysis is conducted using one-way analysis of variance (ANOVA) in each of the motivation scales: tutoring self-efficacy, tutoring value and tutoring interest.

Motivation scale	$\leq$ 2 years		2–5 years		6–10 years		$\geq$ 10 years		F (3,154)	*p*
	M	SD	M	SD	M	SD	M	SD		
Tutoring self-efficacy	5.14	0.87	5.97**	0.69	5.96**	0.59	6.18**	0.55	20.57	<0.001
Tutoring value	5.41	1.05	5.89	1.02	6.03*	0.92	5.89	0.86	3.87	0.01
Tutoring interest	5.27	1.26	5.44	1.53	5.70	0.95	5.96*	0.80	3.18	0.03
Overall motivation scores	5.27	0.93	5.77*	0.93	5.90**	0.66	6.01**	0.61	8.36	<0.001

*is $p<0.05$ and
**is $p<0.01$ compared with ≤ 2 years of experience using Bonferroni as a post-hoc test.

measures of teachers' self-efficacy beliefs that are grounded in the context of the classroom.[17] Therefore, measuring the reproducibility of the current study findings in different PBL contexts will be required.

Applying the SDT to the current study, interest of teachers is an important indicator for their intrinsic motivation for PBL tutoring.[15] The most likely applicable type of interest in this study is "individual interest" rather than "situational interest". Individual interest is conceptualized as a relatively stable affective-evaluative orientation toward certain domains or events.[11] An interesting finding in the current study was the strong highest correlations between tutoring interest and tutoring value subscales. This finding could explain that interest and task value are closely related constructs at the task and context specificity levels described in the current study.

An evidence for the criterion-related validity of the MTQ-PBL is the significant correlations between the scores of teachers self-reported tutoring skills and their scores in the three motivation subscales of the questionnaire. This finding would support Bandura's theory that interpretation of actual performance is one of the strong cues that individuals use to gauge their self-efficacy.[7] Therefore, tutors who rated themselves higher in PBL tutoring skills mostly reported higher scores in motivation for tutoring. Teachers scoring higher on teacher-efficacy measures are more likely to try new teaching ideas, particularly techniques that are difficult, involve risks, and require that control is shared with students.[30] There is also an evidence that increased teacher efficacy is associated with perceptions of improved outcomes of intervention, satisfaction with results, collaborative team process, and data-based decisions.[9] Furthermore, high-efficacy teachers use classroom management approaches that stimulate student autonomy.[31] Future studies will be required to examine the relationships between motivation of PBL tutors and different variables related to PBL tutorial learning environment such as group dynamics, content expertise of tutors, quality of the PBL case, and feedback, which tutors receive.

This study demonstrated that motivation for PBL tutoring were significantly increased by years of tutoring experience. According to SDT, experience with PBL tutoring can evoke feelings of both competence and relatedness, which stimulate the interest, and intrinsic motivation of tutors. The feeling of competence can involve developing both the process and content of PBL cases. These years of PBL tutoring can also be considered a "mastery experience", which is postulated to be the most powerful source of efficacy beliefs.[7,32] These findings support other reports indicating that experienced teachers exhibit high levels of efficacy compared with junior pre-service teachers.[16,21] Comparable findings have been also observed in studies that used other measures of mastery experiences, such as satisfaction with previous teaching performance.[32] In contrast, others demonstrated no relationship,[33,34] or even negative relationship[20,23] between years of experience and self-efficacy for teaching. Future studies are required to explore different sources that could affect self-efficacy of PBL tutors, such as verbal persuasion or vicarious experience. For example, measuring the effect of verbal persuasion of tutors, through constructive feedback about their tutoring skills, on their tutoring efficacy would be required. Similarly, examining how vicarious experience through modeling of tutoring in professional development workshops or through observing experienced tutors in PBL groups, affects the PBL tutoring efficacy of newly inducted tutors would be interesting.

4.1. Study limitations

There are some limitations of the current study that should be acknowledged. While the results of this study suggest the MTQ-PBL has suitable psychometric properties for use as a PBL tutoring indicator, replications in other institutions in different cultures are required to determine the validity of this instrument beyond the current setting. Furthermore, while the validity of the tutoring motivation was examined through correlations with self-ratings of tutoring skills, future studies should examine other methods, such as students' evaluation of tutoring skills or group function in PBL tutorials. Finally, taking into consideration that factor analysis is a large sample statistics, the sample size used in the current study would be considered relatively small. Future studies should aim to test the different types of validity-evidence of the MTQ-PBL in different PBL contexts and using larger sample size.

5. Conclusions

Analysis of the questionnaire scores in three PBL medical schools yielded three significantly correlated motivation subscales: tutoring self-efficacy, tutoring interest and tutoring value. In addition, the instrument demonstrated high internal consistency reliability of the whole scale and the three underlying subscales. Furthermore, motivation for tutoring scores strongly correlated with self-rated tutoring skills scores and increased with tutoring experience. These findings

indicate that motivation for tutoring questionnaire in PBL demonstrates acceptable psychometric properties. The motivation for PBL tutoring questionnaire discussed in this paper offers an emerging pathway for further refining the operationalization of this construct in different problem-based contexts.

Authors' contributions

SK initiated the study idea and research design, conducted the statistical analysis and wrote the initial draft of the manuscript. NH collected the data and conducted the data entry from the FOM-SCU. SE collected the data and conducted the data entry from the FOM-SCU. AS collected the data and conducted the data entry from the CMMS-AGU. SA contributed to the study design, collected the data and conducted the data entry of QUCOM. AA contributed to the data analysis. HA supervised the data collection and to the initial draft of the manuscript. HH contributed significantly to re-drafting the manuscript. All authors contributed to the interpretation of data as well as drafting and critical revision of the manuscript. All authors read and approved the final manuscript and accepted to be accountable for all aspects of the work.

Disclosure

Ethical approval

The Research and Ethics Committees in the three medical schools approved the study protocol and only subjects who accepted to be involved in the study were included. Participants were clearly informed of the voluntary nature of the study and that any information they include in the questionnaires will be treated with confidentiality.

Funding

None.

Other disclosures

None.

Acknowledgements

The authors would like to acknowledge the valuable contributions of Prof. Somaya Hosny from the Faculty of Medicine, Suez Canal University and Prof. Mohamed Nour-El-Din Saleh from College of Medicine Qassim University.

Appendix A. Final version of the motivation for tutoring questionnaire in problem-based learning (MTQ-PBL)

Item	*Tutoring self-efficacy*
4	I think that I am a good PBL tutor
6	I think that I have a talent for PBL tutoring
9	I am sure that I have the necessary skills for PBL tutoring
10	I can provide a relaxed atmosphere in my tutorial group
11	I am satisfied with my performance as a PBL tutor
12	I can provide effective feedback for my students in tutorials
13	When the tutorial group performs better, very often this is just because I have made an extra effort
15	I think that I am a competent PBL tutor
16	I can be a role model for my students in the PBL tutorials
17	I can stimulate good interactions in my tutorial group
24	I think that I am not a very good PBL tutor (R)
27	I can get the students follow the ground rules of the tutorial group
	Tutoring interest
1	Doing PBL tutoring is fun
7	I enjoy doing PBL tutoring
19	PBL tutoring is a boring activity (R)
21	PBL tutoring is interesting
23	PBL tutoring is an enjoyable activity
	Tutoring value
3	I think that PBL tutoring is useful for me
14	It is important for me to be a good PBL tutor
20	I think doing PBL tutoring could help me to develop my professional career
22	I believe PBL tutoring is valuable for me

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