



What influences clinical educators' motivation to teach? A BEME systematic review and framework synthesis based on self-determination theory: BEME Review No. 90

Cesar Orsini, Rintaro Imafuku, Barbara Jennings, Adam Neufeld, Jorge Tricio & Rashmi A. Kusrkar

To cite this article: Cesar Orsini, Rintaro Imafuku, Barbara Jennings, Adam Neufeld, Jorge Tricio & Rashmi A. Kusrkar (15 Oct 2024): What influences clinical educators' motivation to teach? A BEME systematic review and framework synthesis based on self-determination theory: BEME Review No. 90, Medical Teacher, DOI: [10.1080/0142159X.2024.2412166](https://doi.org/10.1080/0142159X.2024.2412166)

To link to this article: <https://doi.org/10.1080/0142159X.2024.2412166>



Published online: 15 Oct 2024.



Submit your article to this journal [↗](#)









View related articles [↗](#)



View Crossmark data [↗](#)

What influences clinical educators' motivation to teach? A BEME systematic review and framework synthesis based on self-determination theory: BEME Review No. 90

Cesar Orsini^a , Rintaro Imafuku^b , Barbara Jennings^a , Adam Neufeld^c , Jorge Tricio^d  and Rashmi A. Kusrkar^{e,f,g} 

^aDepartment of Medical Education, Norwich Medical School, University of East Anglia, Norwich, UK; ^bMedical Education Development Centre, Gifu University, Gifu, Japan; ^cDepartment of Family Medicine, Cumming School of Medicine, University of Calgary, Calgary, Canada; ^dFaculty of Dentistry, Universidad de los Andes, Santiago, Chile; ^eResearch in Education, Amsterdam UMC Faculty of Medicine, Vrije Universiteit, Amsterdam, The Netherlands; ^fFaculty of Psychology and Education, LEARN! Research Institute for Learning and Education, VU University Amsterdam, Amsterdam, The Netherlands; ^gAmsterdam Public Health, Quality of Care, Amsterdam, The Netherlands

ABSTRACT

Background: Health professions learners are taught by full-time university faculty and by clinicians who teach alongside their clinical practice. This distributed healthcare education model ensures high-quality education but is at risk due to high learner demand, shortage of educators, and economic pressures. Understanding what factors influence clinical educators' motivation to teach may contribute to the model's sustainability and educator retention. The present review therefore aimed to systematically search and synthesise factors influencing clinical educators' motivation to teach.

Methods: Multiple databases, relevant journals, and the grey literature were searched for studies reporting on clinical educators' motivation to teach. Data were analysed using a framework synthesis method, based on self-determination theory's amotivation (e.g. disinterest or unachievable challenges), controlled (e.g. interest in rewards or pressure avoidance), and autonomous (e.g. personal importance and interest) concepts, and nested within a motivation from 'above' (i.e. interactions with stakeholders and societal expectations), 'within' (i.e. personal beliefs and personality dispositions), and 'below' (i.e. perception on learners' motivation and engagement) framework.

Results: Twenty-nine studies were included, published between 1998 and 2022, which reported on educators from diverse disciplines and settings. Educators reported autonomous over controlled motivation to teach, favouring enjoyment, connectedness, professional development, feeling valued for their teaching efforts, and altruistic reasons to teach, over being motivated by incentives and rewards. These results are presented in relation to their origin, as factors influencing motivation 'above', 'within', and 'below'.

Conclusions: Results from this study have important implications for the development of contextual strategies to optimise learning/work environments and maximise autonomous reasons to teach, enhancing clinical educators' job satisfaction and retention.

ARTICLE HISTORY

Received 28 June 2024
Accepted 30 September 2024

Introduction

Undergraduate and postgraduate health professions learners are taught by full-time university faculty but also by clinicians who undertake teaching responsibilities alongside their clinical practice in university hospitals, primary care facilities, and private practices (e.g. clinical supervisors/preceptors) [1, 2]. This distributed health professions training model helps to ensure alignment between clinical education, community healthcare needs, and the learning of future healthcare professionals [3]. Despite its benefits, there is a risk to the model's sustainability, due to the increased number of learners, shortage of available placements and clinicians to teach, economic pressures on practices, productivity demands, and teaching being frequently uncompensated/poorly remunerated [4, 5]. Consequently, to improve clinical educators' retention, there is a need to better understand

factors affecting teaching quality and job satisfaction, where optimal motivation to teach has been associated with better educator performance and wellbeing, and with a learner – rather than educator-centred teaching approach [1, 3].

Motivation to teach is a complex concept, where drives (i.e. origins of behaviour leading to action), goals/purpose (i.e. a conscious plan leading to action), and reinforcements (i.e. entities increasing or decreasing behaviour) overlap and influence behaviour in different ways, and at different times [6]. Self-determination theory (SDT) provides guidance to understand factors influencing motivation, which can be applied to teaching, as it focuses on the reasons why individuals engage in particular tasks [7]. SDT classifies motivation into autonomous motivation, controlled motivation, and amotivation. Autonomous motivation refers to engaging in teaching out of personal importance and interest (e.g. enjoyment, altruism,

Practice points

- Understanding what supports and thwarts clinical educators' motivation to teach in distributed learning environments is critical to ensure high-quality education and staff retention.
- Interventions aimed at supporting clinical educators' autonomous motivation, and reducing controlled motivation and amotivation, should acknowledge the complexity of the educational environment and consider factors influencing it from 'above', 'within', and 'below'.
- Clinical educators favoured enjoyment, professional development, feeling valued, connectedness, and altruistic reasons to teach over incentives and rewards.
- Interventions addressing clinical educator's motivation to teach should be implemented strategically, contextually, and as a programme, due to the dynamic nature of motivation.

and intellectual stimulation); controlled motivation involves teaching predominantly due to extrinsic reasons, such as social/material rewards, avoiding punishment, or internal/external pressure (e.g. financial compensation, recognition, status, and self-image); and amotivation refers to the absence of motivation to teach (i.e. disinterest, feelings of unachievable tasks/challenges) [7, 8]. Autonomous motivation to teach, compared to controlled motivation and amotivation, has been associated with increased work satisfaction and self-efficacy, amongst clinical educators, along with more supportive learning environments [9, 10].

Despite being a challenging task, with time constraints and pressure to balance service provision with teaching duties, clinical teachers are generally motivated by autonomous reasons, which depend on the sociocultural and educational environment [11–13]. The framework proposed by Pelletier et al. [14], later expanded by Reeve and Su [15], has been used to understand the complexity of the environmental influences on educators' motivation, considering factors from 'above', 'within', and 'below'. Factors from 'above' refer to the support vs. control experienced by educators in their interactions with line managers/supervisors, administrators, patients, and carers, and how they deal with the responsibility of educational and service policies, and societal expectations, to produce competent learners. Factors from 'within' refer to educators' own personal values and motivation. Factors from 'below' refer to educators' perceptions and beliefs about learners' motivation and engagement. The more educators experience negative influences from 'above', 'within', and 'below', the more they tend towards burnout and a controlling teaching style [16, 17].

Understanding what supports and thwarts motivation to teach in distributed learning environments is critical to ensure high-quality education as supportive supervision has been reported as a key factor in trainees' positive learning experience [3, 18]. This review thus aimed to systematically search and synthesise research evidence from the clinical education literature on factors influencing educators' motivation to teach, using a framework synthesis

method, based on SDT. The results offer insight into different factors supporting/thwarting motivation to teach, which can guide educational practices to support autonomous motivation.

Methods

We conducted and reported the review following the STORIES [19] and PRISMA [20] statements.

Search strategy and selection criteria

First, with guidance of a specialist librarian, we developed the search terms, identifying the three essential subjects of 'Motivation' AND 'Educators' AND 'Health Professions Education'. We expanded these to synonyms, alternative spelling, and related terms ([Appendix 1, Supplementary material](#)). Simultaneously, we set out the review scope by defining the eligibility criteria:

Inclusions:

1. Original research focusing on motivation to teach.
2. Original research reporting on educators in undergraduate/postgraduate health professions education.
3. Quantitative, qualitative, and mixed-methods studies.

Exclusions:

1. Research focused on incentives to recruit educators.
2. Not original research such as viewpoints, editorials, or books.
3. Literature reviews.
4. Research published in languages other than English.

Second, we conducted a scoping search on the BEME reviews and Medline database, where no evidence synthesis answering the same research question was identified. Third, we conducted an electronic search through databases, relevant journals, and the grey literature, with no timeframe restriction. We searched the Medline, Embase, PsycINFO, CINAHL, and ERIC databases, from inception until March 2024. The database selection provided balance between health, education, and psychology sources ([Appendix 1, Supplementary material](#)). Subsequently, we searched relevant journals through their website search engines, reviewing references until titles became irrelevant ([Figure 1](#)). We searched the grey literature through OpenGrey, without restrictions.

We then exported all retrieved records to the Rayyan[®] systematic review software [21]. After removing duplicates, two reviewers (CO/RI) independently screened titles and abstracts against the eligibility criteria and BJ resolved disagreements. We conducted a snowball search on the references of all included articles to identify additional sources.

Study quality and data extraction process

Selected studies were appraised independently by two reviewers (CO/RI) for quality and risk of bias, using two instruments – for quantitative studies, the Medical Education Research Study Quality Instrument (MERSQI) [22], and for qualitative studies, the Joanna Briggs (JBI) Critical Appraisal Checklist for Qualitative Research [23]. Afterwards, data were extracted by two reviewers (CO/RI, and BJ resolving

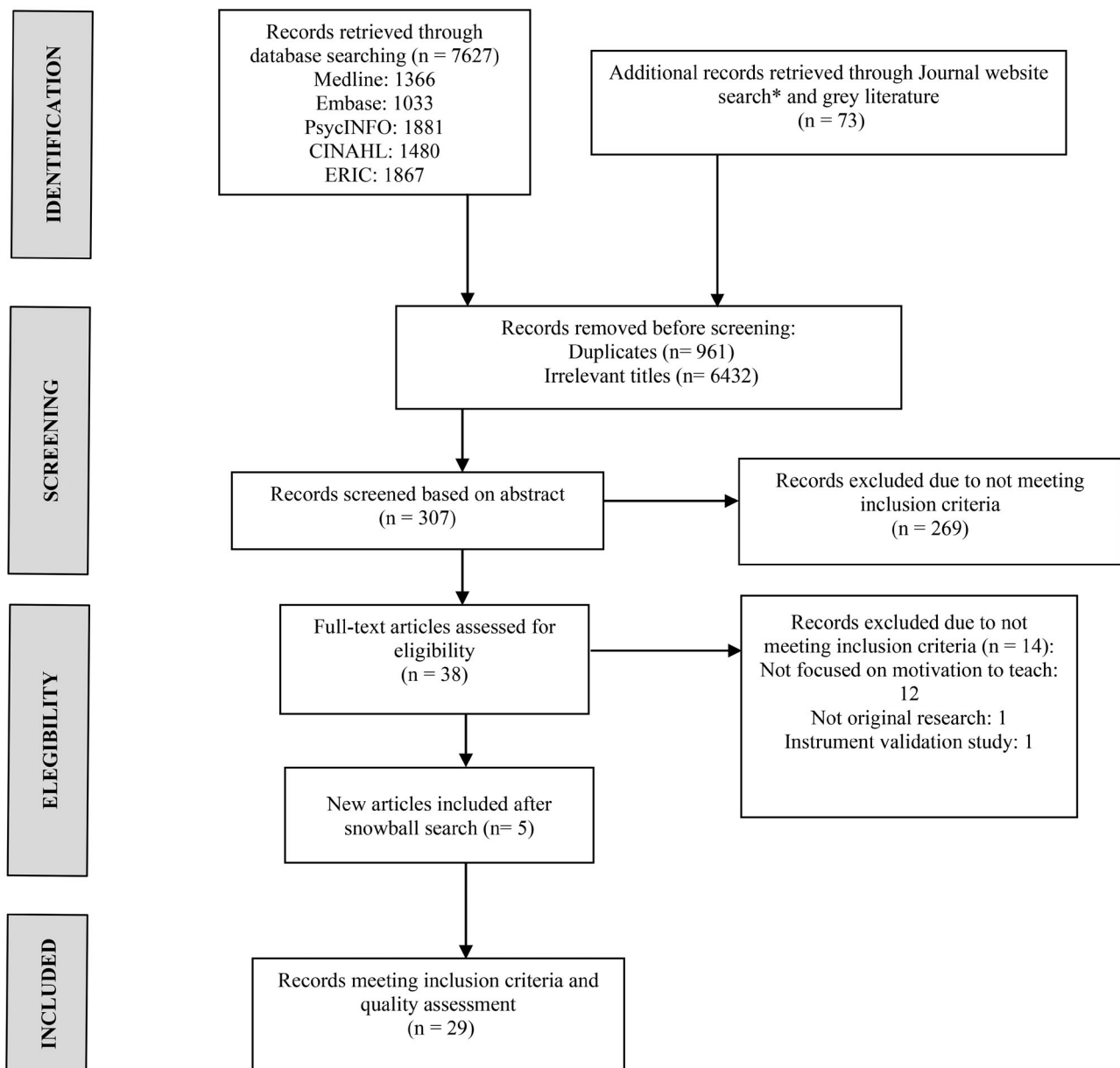


Figure 1. PRISMA flowchart summarising the review process with number of articles reviewed and retained at each stage. Adapted from: 'The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions' (<http://prisma-statement.org>). *Journals searched: *Academic Medicine, Advances in Health Science Education, BMC Medical Education, European Journal of Dental Education, Journal of Dental Education, Journal of Educational Evaluation for Health Professions, MedEdPublish, Medical Education, Medical Teacher, Nurse Education Today, Perspectives on Medical Education, Teaching and Learning in Medicine, and The Clinical Teacher.*

disagreements), using a pre-defined extraction form, including key methodological information and selected findings relevant to the review aim (Appendix 2, Supplementary material). We conducted a calibration exercise to ensure consistency, by jointly appraising the first four studies.

Data synthesis

A meta-analysis of results was not appropriate due to methodological heterogeneity; therefore, we used a narrative approach through a framework synthesis, using the Nvivo 12.0 software (QSR International, Doncaster, Australia). This method was chosen to explore factors influencing clinical educators' motivation to teach, rather than test a hypothesis (e.g. content analysis) or conceptualise an issue (e.g. meta-ethnography) [24]. The framework synthesis was based on factors influencing autonomous motivation, controlled motivation, and amotivation, which represented themes that were

nested under the framework of environmental factors influencing educator's motivation from 'above', 'within', and 'below' [15]. All analyses were conducted by CO, being checked independently by RI, and with subsequent consensus by the whole research team.

Results

Study selection, characteristics, and quality appraisal

Searches retrieved 7700 records, and when duplicates and irrelevant titles were removed, 307 articles were forwarded for abstract screening, and later 38 for full-text assessment. Of these, 24 met the eligibility criteria and five were subsequently added from the snowball search. Finally, 29 articles were included. Figure 1 presents the PRISMA statement summarising the selection process.

Appendix 3 (Supplementary material) provides a summary of the key findings from the selected studies. All

stated clear objectives relevant to clinical educators' motivation to teach. Publication year ranged from 1998 to 2022, and articles were predominantly distributed between Global North locations such as Australia, Canada, Europe, and United States. Most studies involved either physicians (48%) or a mix of educators from different health professions (31%), and, to a lesser extent, pharmacists (7%), dietitians (3%), dentists (3%), nurses (3%), and veterinarians (3%). Quantitative studies were mostly survey-based and cross-sectional, with sample sizes ranging between 31 and 1517, while qualitative studies collected data either through semi-structured interviews or focus groups, with sample sizes ranging between 8 and 114. A summary of quality and risk of bias is presented in [Appendix 4 \(Supplementary material\)](#), where all studies were considered of adequate quality.

The majority of clinical educators, irrespective of their discipline and teaching setting, reported an internal desire or autonomous motivation to teach [1, 11, 12, 25–30]. [Table 1](#) shows a summary of the identified factors influencing clinical educators' autonomous motivation, controlled motivation, and amotivation, specifying their origin as from 'above', 'within', or 'below'.

Factors from 'above'

Influencing autonomous motivation

Autonomy support from line managers/supervisors. Dentists and physicians reported that a workplace climate characterised by supportive and transformational leadership from line managers/supervisors was a positive source of motivation to teach [1, 31].

Opportunity to provide input on teaching format and/or content. Five studies reported clinical educators feeling appreciated and empowered by having input in the curriculum,

instructional design, being able to emphasise areas of clinical importance, and having choice in what should be taught, according to their areas of expertise ([Appendix 3, Supplementary material](#)). Moreover, educators reported enjoying small-group and bedside teaching, as these were interactive and related to everyday practice [6, 32, 33].

Influencing controlled motivation

Compensation (incentives and rewards). Though this was not the strongest motivator, educators reported valuing different types of tangible rewards, to compensate the longer workdays and lower clinical productivity when supervising learners [18, 34–36]. Ten studies reported adequate financial remuneration reflective of their expertise ([Appendix 3, Supplementary material](#)). However, this should be combined with other sources of compensation, due to the big gap between payment for teaching vs. consulting. Amongst these sources, nine studies reported value of accessing continuing education on clinical topics and teaching skills, online library resources, faculty appointments (even honorary), and above all, receiving CPD credits for teaching which were deemed to be expensive and difficult to obtain.

Job requirement. Clinical educators in six studies reported that teaching was part of their employment obligations and mandated by their departments ([Appendix 3, Supplementary material](#)). Surgeons expressed that they would be unable to practice surgery if they opted out of teaching [5].

Recognition and appreciation from university. The value and acknowledgements given to teaching contributions was another source of motivation [3, 32, 37]. Nurse-midwives and physicians in five studies valued expressions of recognition and appreciation, such as personalised thank you letters, teaching awards, and gifts ([Appendix 3, Supplementary material](#)). However, there was also a perception of disproportionate consideration when it came to promotion/tenure,

Table 1. Factors influencing clinical educators' motivation to teach.

Educational environment origin/SDT motivation taxonomy	Factors influencing autonomous motivation	Factors influencing controlled motivation	Factors influencing amotivation
<i>Factors from above (i.e. support vs. control experienced interacting with line managers, administrators, patients, and carers, and responsibility/accountability of educational/service policies and societal expectations)</i>	Autonomy support from line manager/supervisor Opportunity to provide input on teaching format and/or content	Compensation (incentives and rewards) Job requirements Recognition and appreciation from university	Lack of trainee continuity Lack of support and communication from the educational programme Unsupportive workplace/teaching culture Weak teaching evaluation system Workload pressures and productivity demands
<i>Factors from within (i.e. educators' own motivation to teach, their beliefs and personality dispositions)</i>	<i>Sense of purpose</i> Towards institution Towards patient care and community Towards the profession Contribution to learners' development and integration into the community of practice Desire/enjoyment of teaching Desire to establish rapport and connectedness with learners <i>Professional growth and mastery</i> Challenge and intellectual stimulation Mastery of teaching competence Preserve and update clinical competence	Recruitment opportunities for specialty and as partners Reduce own workload Status and pride	
<i>Factors from below (i.e. educators' perceptions and beliefs about their learners' motivation and engagement)</i>	Learners' autonomous motivation and engagement Learners' evaluation/feedback of teaching	Learners' recognition and appreciation	Difficult and unprepared learners

compared to those involved in research, leaving teaching efforts overlooked and unnoticed.

Influencing amotivation

Lack of trainee continuity. A high and frequent degree of trainee turnover prevented educators from following their progress, requiring them to explain the same things repeatedly (e.g. tasks and responsibilities), whereas having trainees for longer periods improved educators' teaching experience [5, 31].

Lack of support/communication from the educational programme. Educators in 11 studies expressed frustration by the lack of connectedness, teaching training, and guidance received from the educational programme, especially regarding learning outcomes and teaching expectations for supervision and assessment, trainees' progress, and administrative support (Appendix 3, Supplementary material). Dietitian and veterinarian educators endorsed that this lack of support was a main factor for refusing to take interns [4, 35].

Unsupportive workplace/teaching culture. A negative workplace attitude towards teaching was reflected by enormous pressures, competing demands, poor facilities, being understaffed, and having restricted study leave, all of which negatively impacted motivation and enjoyment [4, 27, 32, 33]. However, as reported in eight studies, the most relevant barrier to teach was lack of time, for both corridor and planned teaching, due to high clinical workload (Appendix 3, Supplementary material).

Weak teaching evaluation system. Educators questioned a teaching evaluation system solely based on learner feedback/criticism. They stressed the need for triangulation with other sources and for evaluation not to be restricted to the end of the semester/rotation [31, 37].

Workload pressures and productivity demands. Five studies reported that the need to maintain a high patient volume and productivity demands were important barriers to teach (Appendix 3, Supplementary material). Veterinarians and surgeons reported that learners slowed them down, making their work hours longer and practices less profitable, especially when teaching was not reimbursed and there were too many learners [5, 35]. Dietitians reported supervision as overwhelming, due to being understaffed [4].

Factors from 'within'

Influencing autonomous motivation

Sense of purpose. Educators expressed a sense of purpose in their teaching: (1) towards their institutions, reporting the importance of maintaining teaching standards and loyalty [38]; (2) towards patient care and the community, by indirectly ensuring patient safety and improving the standards of healthcare through training/supervising future clinicians [18, 30, 38, 39]; and (3) towards the profession, where 17 studies reported educators' desire to 'pay it forward' and 'give back' to the profession (Appendix 3, Supplementary material).

Contribution to learners' development and integration into the community of practice. In eight studies, helping trainees progress at a professional/personal level to become competent clinicians was reported as a strong source of enthusiasm and satisfaction (Appendix 3, Supplementary

material). Moreover, demonstrating the correct way of practicing clinically, by sharing their expertise, providing a clinical context, and being a role model, provided educators a sense of achievement, as they felt this could only be provided by clinicians [12, 28, 38, 40].

Desire/enjoyment of teaching. Twenty-two studies reported that teaching, for its own sake, was rewarding and refreshing, resulting in personal fulfilment, especially when teaching in one's own subject matter. The desire to teach was shared by educators at university hospitals, in the community, and by clinicians teaching in their offices, who took learners primarily for the enjoyment of teaching [41, 42].

Desire to establish rapport and connectedness with learners. In eight studies, physicians, dietitians, and veterinarians described building interpersonal relationships and educator-learner rapport as a very strong teaching motive, leading to self-reflection and new perspectives about clinical practice and teaching (Appendix 3, Supplementary material). Benefits from establishing this rapport were the life-long learning relationships and sharing career experiences and passion for the profession [5, 35].

Professional growth and mastery. Educators reported that professional growth and mastery were relevant to continue teaching, mainly through: (1) the challenge and intellectual stimulation from teaching learners, allowing reflection and critical thinking, reported in 11 studies; (2) the desire to master teaching competencies, as mentioned in five studies; and (3) the preservation of clinical competence, by needing to stay up-to-date on current literature and techniques, reported in 16 studies (Appendix 3, Supplementary material).

Influencing controlled motivation

Recruitment opportunities for specialty and as partners. Educators in six studies reported teaching as an opportunity to recruit future partners and promote their specialties (Appendix 3, Supplementary material). This was especially relevant for those working in rural settings, where there was a shortage and a need/pressure to increase doctor supply [18, 37].

Reduce own workload. Physicians and pharmacists agreed that learners could contribute to reducing clinical load, making patient care more efficient and less demanding. However, this was considered an added value and not a primary source of motivation to teach [11, 39, 43].

Status and pride. A motivating factor to teach, reported in five studies, was the contact and affiliation to a local university, which increased educators' practice status, reputation, and self-image as clinical professionals (Appendix 3, Supplementary material).

There were no identified factors influencing amotivation from 'within'.

Factors from 'below'

Influencing autonomous motivation

Learners' autonomous motivation and engagement. Physicians, nurses, and veterinarians reported satisfaction when learners displayed interest and enthusiasm [26, 32, 38, 41]. Therefore, teaching motivation was described as being derived from their

perception of learners' motivation and development [31, 33, 35]. For dental educators, perception of learners' autonomous motivation positively predicted their autonomous motivation to teach [1].

Learners' evaluation/feedback of teaching. Positive and constructive feedback from learners was crucial in maintaining educators' motivation and perceived competence in teaching [26, 31, 33]. Moreover, this was mentioned for both learners' formal evaluation of teaching and informal feedback [26, 36, 37].

Influencing controlled motivation

Learners' recognition and appreciation. Educators at the undergraduate and postgraduate level indicated that learners' expressions of appreciation (e.g. gifts, admiration, and achievements attributed to their teaching) created important incentivisation for teaching [31, 38, 43, 44].

Influencing amotivation

Difficult and unprepared learners. Several learner-related factors prompted educators to discontinue supervising: (1) insufficient knowledge/skills made paediatric consultants, family physicians, and nurses frustrated and concerned for patient safety [27, 32, 45]; (2) poor attendance, punctuality, and disappearing from wards irritated educators, since they felt this lack of commitment led learners to miss out on important learning opportunities [4, 32]; (3) disengagement and poor attitude/behaviour (e.g. low effort and interest, disrespect, lack of policy and procedure adherence), reported in five studies, favoured educators' amotivation, especially considering the effort and time that supervision involves.

Discussion

Summary of main findings

Findings from this review deepen our understanding on aspects stimulating different types of clinical educators' motivation (i.e. autonomous/controlled and amotivation), from three distinct sources (i.e. 'above', 'within', and 'below'). These factors constitute a starting point to develop interventions and guide further research exploring educators' involvement and commitment to teaching, with the goal of optimising educational/work environments.

Our results highlight the complexity of the environmental influences on educators' motivation, where SDT's taxonomy can be understood as having different origins and, as such, different ways to address it, considering particular contexts and needs [14]. In general, educators from diverse disciplines and settings reported autonomous over controlled motivation to teach, which supports the distributed health professions training model and the superiority of intrinsic over extrinsic motivators to promote retention [36].

Of special relevance to curriculum/faculty developers or programme directors are factors from 'above'. Our findings show that communication and support from line managers, connectedness to the university, and an available training programme, are especially relevant to maintain autonomous motivation and avoid amotivation. These findings are consistent with reports where dissatisfaction with the

programmes' organisational design, structure, and processes, were considered major sources of occupational stress [46, 47]. They also extend to the workplace setting, where an environment not embracing a teaching culture (e.g. time constraints and non-compatible clinical workload) has been reported as a primary limiting factor to mentor and supervise learners, across different health disciplines [4, 35]. On the other hand, recognition and compensation were found to influence controlled motivation. Although remuneration was not endorsed as an instrumental motive to teach, it was interesting to find that educators might decline supervising without payment or other sources of compensation, amongst which CPD opportunities and credits, and library access, were the most popular [27, 36]. Similarly, recognition, and being appreciated for their teaching efforts, made educators feel valued. In line with equity theory, our findings support the idea that recognition and compensation should be appropriately sized in relation to the invested effort, to avoid unintended consequences such as perceptions of unfairness that might lead to amotivation [43, 48].

Another finding that stands out are factors influencing motivation from 'within', where altruistic reasons (i.e. towards the next generation of clinicians, the profession, and the community), intellectual satisfaction, personal/professional skills development, and enjoyment were found to be the most influential aspects. This finding is consistent with other studies ranking personal satisfaction as the highest reward, calling for teaching organisations to further explore and enhance aspects of altruism and enjoyment to maintain educators' autonomous motivation, in both the public and private sectors [13, 49].

Our results also highlight the importance of considering factors from 'below' that may impair or enhance motivation. These factors related mainly to teacher perceptions of their learners' motivation and engagement, how learners evaluate and recognise teaching efforts, and how 'well prepared' learners are. As our results show that educators value how learners perceive them, valid evaluation methods should be used to inform educators about their impact on learners' experiences and learning.

Implications and recommendations for practice

One question that emerges from these findings is how to make clinical educators' work more interesting and enjoyable and therefore how to support their autonomous motivation and reduce controlled motivation and amotivation to teach. A work environment that supports autonomous motivation will likely lead to a more fulfilling experience, whereas an environment favouring controlled motivation and amotivation will lead to pressure and a more stressful experience [7]. Derived from our findings, Box 1 provides a summary of 12 recommendations to optimally support clinical educators' motivation to teach. These should be implemented strategically and contextually (as opposed to using a 'one size fits all' approach), and as a programme (rather than as isolated tasks), due to the dynamic nature of motivation.

Amongst these recommendations, and considered as support from 'above', it is important to involve clinical educators in course design and curriculum development, favouring a transformational (e.g. promoting teamwork,

Box 1

Summary of recommendations to support clinical educators' autonomous motivation and reduce controlled motivation and amotivation.

1. Involve educators in *course design* for placements and on an overarching level in *undergraduate/postgraduate education and/or curriculum development*.
2. Line managers/supervisors *should* adopt a *transformational as opposed to a transactional* leadership style.
3. Plan manageable *workload* and *protected teaching time*.
4. Use comprehensive *teaching evaluation plans* to inform educator practice.
5. Build adequate and contextual *recognition* structures.
6. Organise support from and communication with the *educational programme*.
7. *Set up mentoring schemes* and *longitudinal placements* to develop long-term relationships with learners.
8. *Nurture clinical educators' interests* in their teaching role.
9. Emphasise *enjoyment and altruistic reasons* to teach.
10. Provide *faculty development opportunities* for teaching and clinical skills.
11. Build *communities of practice/learning* amongst clinical educators.
12. Raise *learners' awareness* on their responsibility towards clinical educators' optimal motivation.

shared vision, and collegial decision-making) over a transactional (e.g. micromanaging and controlling behaviour through rewards) leadership style; planning a manageable workload; developing policy initiatives and an organisational vision that recognises the teaching role by different means (including but not limited to compensation and rewards); and building connectedness and making educators feel part of an academic institution/community by improving communication with the educational programme. Accordingly, longer rotations and mentoring programmes (i.e. pairing learners, or junior staff, with faculty or more senior colleagues) have been reported to favour collaborative work, making learners' development visible, and supporting a culture of learning and long-term professional relationships [50].

Recommendations to support educator's motivation from 'within' point at creating conditions where educators may rediscover and nurture the meaning, enjoyment, and altruistic purpose of their work; providing continuous training opportunities in teaching and clinical skills, which has been identified as essential for clinical educator's identity formation, optimal functioning and growth [51]; and facilitating the creation of links with colleagues and long-term professional relationships with learners, which has been associated with improved loyalty and satisfaction [52]. These recommendations, however, need to consider the role of individual differences (i.e. predominant motivational orientations and personal dispositions towards the environment). These individual differences may affect how an educator experiences the influences from the educational environment, explaining different motivations to teach and associated outcomes [7].

Finally, a recommendation to support educators' motivation from 'below' is to raise learners' awareness, at the undergraduate and postgraduate level, on their responsibility within the educational partnership and influence on educators' quality of motivation, which can be emphasised in induction settings or within learning-to-learn courses [1].

Limitations

The present study has several noteworthy limitations. While we included multiple search sources, the review is inherently

limited to these, and some relevant publications might have been excluded. Also, the review includes research conducted in different contexts (e.g. public and private), which may be considered a strength, but at the same time represents a limitation, as results from one context might not be generalisable to others. The latter includes the complexity of clinical education environments, where system-level barriers may prevent the implementation of well-intended initiatives. Transferability should thus be approached with caution. Moreover, further work is needed to explore the experiences and perspectives of Global South countries as the review is mostly limited to articles originating from the Global North [53]. Finally, the interplay between the different identified factors and how individual differences may influence educators' motivation to teach needs to be considered when implementing our recommendations, which is an important direction for further research.

Conclusions

This review provides a comprehensive synthesis on factors influencing clinical educators' motivation to teach, considering their autonomous motivation, controlled motivation, and amotivation, coming from different educational environment origins – 'above', 'within' and 'below'. The results show the complexity of factors supporting and thwarting educators' motivation and provide new insights into ways to develop contextual strategies to optimise learning/work environments. These strategies can help maximise autonomous reasons to teach and mitigate controlling and amotivating factors, enhance job satisfaction and retention. Ultimately, this better understanding of educators' motivation may contribute towards the sustainability of the distributed health professions training model.

Author contributions

Cesar Orsini conceptualised and designed the study. All authors provided feedback on the original concept and design of the study. Cesar Orsini and Rintaro Imafuku conducted all searches, data extraction, and analysis. Barbara Jennings mediated where there was disagreement. All authors have contributed to important intellectual content, the writing and revising of the manuscript. All authors have approved the final submitted version of the manuscript.

Ethical approval

Not applicable.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research was supported by a grant from the Great Britain Sasakawa Foundation (No. 6045) awarded to Cesar Orsini.

Notes on contributors

Cesar Orsini, BDS, MEd, DHPE, SFHEA, RETF, is an Associate Professor in Medical Education at Norwich Medical School, University of East Anglia, UK.

Rintaro Imafuku, MA, PhD, is an Assistant Professor at the Medical Education Development Center, Gifu University, Japan.

Barbara Jennings, PhD, SFHEA, is a Professor of Genetics in Medical Education at Norwich Medical School, University of East Anglia, UK.

Adam Neufeld, MSc, MD, CCFP, is a Clinical Lecturer in the Department of Family Medicine, Cumming School of Medicine, University of Calgary, Canada.

Jorge Tricio, BDS, MSc, FHEA, PhD, is a Professor of Health Professions Education at the Faculty of Dentistry, Universidad de los Andes, Chile.

Rashmi A. Kusrkar, MD, PhD, FAMEE is a Professor and Research Programme Leader at Amsterdam UMC location Vrije Universiteit Amsterdam, Research in Education, Amsterdam, The Netherlands. She is also a KIPRIME Fellow 2019.

ORCID

Cesar Orsini  <http://orcid.org/0000-0002-5226-3625>
 Rintaro Imafuku  <http://orcid.org/0000-0002-4740-2723>
 Barbara Jennings  <http://orcid.org/0000-0003-3792-9182>
 Adam Neufeld  <http://orcid.org/0000-0003-2848-8100>
 Jorge Tricio  <http://orcid.org/0000-0002-2364-9828>
 Rashmi A. Kusrkar  <http://orcid.org/0000-0002-9382-0379>

References

- Orsini C, Tricio JA, Segura C, et al. Exploring teachers' motivation to teach: a multisite study on the associations with the work climate, students' motivation, and teaching approaches. *J Dent Educ*. 2020;84(4):429–437. doi: 10.1002/jdd.12050
- Van Schalkwyk S, Couper I, Blitz J, et al. A framework for distributed health professions training: using participatory action research to build consensus. *BMC Med Educ*. 2020;20(1):154. doi: 10.1186/s12909-020-02046-z
- Verhees MJM, Engbers RE, Landstra AM, et al. Optimizing teacher basic need satisfaction in distributed healthcare contexts. *Adv Health Sci Educ Theory Pract*. 2021;26(5):1581–1595. doi: 10.1007/s10459-021-10061-y
- AbuSabha R, Muller C, MacLasco J, et al. Benefits, barriers, and motivators to training dietetic interns in clinical settings: a comparison between preceptors and nonpreceptors. *J Acad Nutr Diet*. 2018;118(3):471–480. doi: 10.1016/j.jand.2017.08.009
- Budden CR, Svechnikova K, White J. Why do surgeons teach? A qualitative analysis of motivation in excellent surgical educators. *Med Teach*. 2017;39(2):188–194. doi: 10.1080/0142159X.2016.1248384
- Dahlstrom J, Dorai-Raj A, McGill D, et al. What motivates senior clinicians to teach medical students? *BMC Med Educ*. 2005;5(5):27. doi: 10.1186/1472-6920-5-27
- Ryan R, Deci E. Self-determination theory: Basic psychological needs in motivation, development, and wellness. New York: Guilford Publications; 2017.
- Pelletier LG, Rocchi M. Teachers' motivation in the classroom. In: Liu W, Wang J, Ryan R, editors. Building autonomous learners. London: Springer; 2016. p. 107–127.
- Fernet C, Senécal C, Guay F, et al. The Work Tasks Motivation Scale for Teachers (WTMST). *J Career Assess*. 2008;16(2):256–279. doi: 10.1177/1069072707305764
- Reeve J, Jang H. What teachers say and do to support students' autonomy during a learning activity. *J Educ Psychol*. 2006;98(1):209–218. doi: 10.1037/0022-0663.98.1.209
- Ingham G, O'Meara P, Fry J, et al. GP supervisors—an investigation into their motivations and teaching activities. *Aust Fam Physician*. 2014;43(11):808–812.
- Jelić AG, Tasić L, Odalović M, et al. Predictors and motivation of preceptors' interest in precepting of pharmacy interns—do we have a useful questionnaire? *J Contin Educ Health Prof*. 2020;40(3):203–206. doi: 10.1097/CEH.0000000000000299
- Kumar A, Kallen DJ, Mathew T. Volunteer faculty: what rewards or incentives do they prefer? *Teach Learn Med*. 2002;14(2):119–123. doi: 10.1207/S15328015TLM1402_09
- Pelletier LG, Séguin-Lévesque C, Legault L. Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors. *J Educ Psychol*. 2002;94(1):186–196. doi: 10.1037/0022-0663.94.1.186
- Reeve J, Su Y-L. Teacher motivation. In: Gagné M, editor. The Oxford handbook of work engagement, motivation, and self-determination theory. New York: Oxford University Press; 2014. p. 349–362.
- Soenens B, Sierens E, Vansteenkiste M, et al. Psychologically controlling teaching: examining outcomes, antecedents, and mediators. *J Educ Psychol*. 2012;104(1):108–120. doi: 10.1037/a0025742
- Taylor IM, Ntoumanis N. Teacher motivational strategies and student self-determination in physical education. *J Educ Psychol*. 2007;99(4):747–760. doi: 10.1037/0022-0663.99.4.747
- Ingham G, Fry J, O'Meara P, et al. Why and how do general practitioners teach? An exploration of the motivations and experiences of rural Australian general practitioner supervisors. *BMC Med Educ*. 2015;15(1):190. doi: 10.1186/s12909-015-0474-3
- Sharma R, Gordon M, Dharamsi S, et al. Systematic reviews in medical education: a practical approach: AMEE Guide 94. *Med Teach*. 2015;37(2):108–124. doi: 10.3109/0142159X.2014.970996
- Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *PLoS Med*. 2009;6(7):e1000100. doi: 10.1371/journal.pmed.1000100
- Ouzzani M, Hammady H, Fedorowicz Z, et al. Rayyan—a web and mobile app for. *Syst Rev*. 2016;5(1):210. doi: 10.1186/s13643-016-0384-4
- Cook DA, Reed DA. Appraising the quality of medical education research methods: the Medical Education Research Study Quality Instrument and the Newcastle–Ottawa Scale-Education. *Acad Med*. 2015;90(8):1067–1076. doi: 10.1097/ACM.00000000000000786
- Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. *Int J Evid Based Healthc*. 2015;13(3):179–187. doi: 10.1097/XEB.0000000000000062
- Snilstveit B, Oliver S, Vojtkova M. Narrative approaches to systematic review and synthesis of evidence for international development policy and practice. *J Dev Eff*. 2012;4(3):409–429. doi: 10.1080/19439342.2012.710641
- Hanson E, Gantwerker E, Chang D, et al. To teach or not to teach? Assessing medical school faculty motivation to teach in the era of curriculum reform. *BMC Med Educ*. 2022;22(1):363. doi: 10.1186/s12909-022-03416-5
- Lochner L, Wieser H, Mischo-Kelling M. A qualitative study of the intrinsic motivation of physicians and other health professionals to teach. *Int J Med Educ*. 2012;3:209–215. doi: 10.5116/ijme.508b.98aa

27. May M, Mand P, Biertz F, et al. A survey to assess family physicians' motivation to teach undergraduates in their practices. *PLOS One*. 2012;7(9):e45846. doi: [10.1371/journal.pone.0045846](https://doi.org/10.1371/journal.pone.0045846)
28. Ordoñez FJ, Alvero-Cruz JR, Rosety I, et al. Motivation of clinical teachers at Schools of Sports Medicine: taking part is what really counts? *Apunt Sport Med*. 2013;48(180):131–136. doi: [10.1016/j.apunts.2013.07.003](https://doi.org/10.1016/j.apunts.2013.07.003)
29. Rodríguez C, Bélanger E, Nugus P, et al. Community preceptors' motivations and views about their relationships with medical students during a longitudinal family medicine experience: a qualitative case study. *Teach Learn Med*. 2019;31(2):119–128. doi: [10.1080/10401334.2018.1489817](https://doi.org/10.1080/10401334.2018.1489817)
30. Ward E, Kwan J, Garlan K, et al. 'To teach or not to teach?' Factors that motivate and constrain Australian emergency medicine physicians to teach medical students. *Emerg Med Australas*. 2013;25(4):353–358. doi: [10.1111/1742-6723.12104](https://doi.org/10.1111/1742-6723.12104)
31. Dybowski C, Harendza S. "Teaching is like nightshifts...": a focus group study on the teaching motivations of clinicians. *Teach Learn Med*. 2014;26(4):393–400. doi: [10.1080/10401334.2014.910467](https://doi.org/10.1080/10401334.2014.910467)
32. Peardon E, Caldwell PHY, Oldmeadow W. 'I enjoy teaching but...': paediatricians' attitudes to teaching medical students and junior doctors. *J Paediatr Child Health*. 2010;46(11):647–652. doi: [10.1111/j.1440-1754.2010.01823.x](https://doi.org/10.1111/j.1440-1754.2010.01823.x)
33. Van den Berg B, Bakker A, Ten Cate T. Key factors in work engagement and job motivation of teaching faculty at a university medical centre. *Perspect Med Educ*. 2013;2(5–6):264–275. doi: [10.1007/s40037-013-0080-1](https://doi.org/10.1007/s40037-013-0080-1)
34. Dodson MC. Motivation and reward factors that affect private physician involvement in an obstetrics and gynecology clerkship. *Obstet Gynecol*. 1998;92(4 Pt 1):628–633. doi: [10.1016/S0029-7844\(98\)00261-0](https://doi.org/10.1016/S0029-7844(98)00261-0)
35. Hashizume CT, Myhre DL, Hecker KG, et al. Exploring the teaching motivations, satisfaction, and challenges of veterinary preceptors: a qualitative study. *J Vet Med Educ*. 2016;43(1):95–103. doi: [10.3138/jvme.0715-120R](https://doi.org/10.3138/jvme.0715-120R)
36. Ryan MS, Vanderbilt AA, Lewis TW, et al. Benefits and barriers among volunteer teaching faculty: comparison between those who precept and those who do not in the core pediatrics clerkship. *Med Educ Online*. 2013;18(1):1–7. doi: [10.3402/meo.v18i0.20733](https://doi.org/10.3402/meo.v18i0.20733)
37. Thomson J, Haesler E, Anderson K, et al. What motivates general practitioners to teach. *Clin Teach*. 2014;11(2):124–130. doi: [10.1111/tct.12076](https://doi.org/10.1111/tct.12076)
38. Burgess A, Ramsey-Stewart G. What motivates surgeons to teach dissection anatomy to medical students and surgical trainees? *Adv Med Educ Pract*. 2015;6(6):11–16. doi: [10.2147/AMEP.S73585](https://doi.org/10.2147/AMEP.S73585)
39. Lucas C, Williams K, Tudball J, et al. Community, hospital and industry preceptor perceptions of their role in experiential placements—the need for standardization of preceptor responsibilities and evaluations on students. *Curr Pharm Teach Learn*. 2018;10(11):1447–1455. doi: [10.1016/j.cptl.2018.08.002](https://doi.org/10.1016/j.cptl.2018.08.002)
40. Latessa R, Beaty N, Landis S, et al. The satisfaction, motivation, and future of community preceptors: The North Carolina experience. *Acad Med*. 2007;82(7):698–703. doi: [10.1097/ACM.0b013e318067483c](https://doi.org/10.1097/ACM.0b013e318067483c)
41. Scott I, Sazegar P. Why community physicians teach students (or not): barriers and opportunities for preceptor recruitment. *Med Teach*. 2006;28(6):563–565. doi: [10.1080/01421590600627375](https://doi.org/10.1080/01421590600627375)
42. Snook A, Schram A, Sveinsson T, et al. Needs, motivations, and identification with teaching: a comparative study of temporary part-time and tenure-track health science faculty in Iceland. *BMC Med Educ*. 2019;19(1):349. doi: [10.1186/s12909-019-1779-4](https://doi.org/10.1186/s12909-019-1779-4)
43. Wisener KM, Driessen EW, Cuncic C, et al. Incentives for clinical teachers: on why their complex influences should lead us to proceed with caution. *Med Educ*. 2021;55(5):614–624. doi: [10.1111/medu.14422](https://doi.org/10.1111/medu.14422)
44. Latessa R, Colvin G, Beaty N, et al. Satisfaction, motivation, and future of community preceptors: what are the current trends? *Acad Med*. 2013;88(8):1164–1170. doi: [10.1097/ACM.0b013e31829a3689](https://doi.org/10.1097/ACM.0b013e31829a3689)
45. Germano E, Schorn MN, Phillippi JC, et al. Factors that influence midwives to serve as preceptors: an American College of Nurse-Midwives Survey. *J Midwifery Womens Health*. 2014;59(2):167–175. doi: [10.1111/jmwh.12175](https://doi.org/10.1111/jmwh.12175)
46. Janus K, Amelung VE, Baker LC, et al. Job satisfaction and motivation among physicians in academic medical centers: insights from a cross-national study. *J Health Polit Policy Law*. 2008;33(6):1133–1167. doi: [10.1215/03616878-2008-035](https://doi.org/10.1215/03616878-2008-035)
47. Michailidis M, Asimenos A. Occupational stress as it relates to higher education, individuals and organizations. *Work*. 2002;19:137–147.
48. Adams JS. Towards an understanding of inequity. *J Abnorm Psychol*. 1963;67(5):422–436. doi: [10.1037/h0040968](https://doi.org/10.1037/h0040968)
49. Baldor RA, Brooks WB, Warfield ME, et al. A survey of primary care physicians' perceptions and needs regarding the precepting of medical students in their offices. *Med Educ*. 2001;35(8):789–795. doi: [10.1046/j.1365-2923.2001.00980.x](https://doi.org/10.1046/j.1365-2923.2001.00980.x)
50. Elnicki DM, Cooper A. Effects of varying inpatient attending physician rotation length on medical students' and attending physicians' perceptions of teaching quality. *Teach Learn Med*. 2011;23(1):37–41. doi: [10.1080/10401334.2011.536889](https://doi.org/10.1080/10401334.2011.536889)
51. Van Lankveld T, Schoonenboom J, Volman M, et al. Developing a teacher identity in the university context: a systematic review of the literature. *High Educ Res Dev*. 2017;36(2):325–342. doi: [10.1080/07294360.2016.1208154](https://doi.org/10.1080/07294360.2016.1208154)
52. Buch KK, McCullough H, Tamberelli L. Understanding and responding to the unique needs and challenges facing adjunct faculty: a longitudinal study. *Int J Learn Teach Educ Res*. 2017;16(10):27–40. doi: [10.26803/ijlter.16.10.3](https://doi.org/10.26803/ijlter.16.10.3)
53. Kusurkar R, Lilley P, Harden R. Medical Teacher's equity diversity inclusion policy. *Med Teach*. 2024;46(6):730–731. doi: [10.1080/0142159X.2024.2334394](https://doi.org/10.1080/0142159X.2024.2334394)