

Self-determination in medical education

Encouraging medical educators to be more like blues artists and poets

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ABSTRACT

Historically, medical education has focused largely on medical students' intellectual development, mostly ignoring the broader psychological milieu of medical practice. This chasm can result in practitioners who are less likely to process their emotions and/or support their patient's needs, and more likely to experience burnout. Self-determination theory (SDT) offers a unique perspective for understanding how the medical education environment can promote better integration of cognitive and psychological development through supporting the basic psychological needs for autonomy, competence, and relatedness, thus facilitating internalization of autonomous self-regulation for medical practice. Herein, we examine research applying SDT to medical education and offer suggestions that may facilitate both practitioners' and patients' well-being.

KEYWORDS *medical education, self-determination theory*

Angelina, baby won't you please come home
Angelina, baby won't you please come home
You know my heart is aching and all my dreams have gone
Well, now my bed is empty, my feet and my hands are cold
You know my bed is empty, my feet and my hands are cold
Come on home, Angelina, my love for you will never grow old
Keb' Mo' (Blues Artist), *Angelina*, 1994

Blues artists and poets frequently repeat their lyrics and poems to enhance listeners' experience and integration of the artists' intellectual *and* emotional

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messages. Cognitions are typically processed faster than emotions. However, it is at these higher levels of processing and integration that humans experience meaningfulness and psychological energy (or motivation) for behaving in the world and for coping with emotional responses to the social surround. The accelerated and emotionally charged nature of medical education poses a risk for medical students' failure to integrate both their intellectual and emotional experiences, which may result in poor performance and burnout. Indeed, the focus of medical education is largely on cognitive processing. Little attention is given to emotional processing and integrating cognitive and emotional aspects of medical education and practice. Unless specific efforts are made to support learners' psychological needs, students in these programs may fail to integrate their cognitive and emotional experiences and suffer loss of motivation or burnout over time. Medical educators who support trainees' intellectual development, but also recognize the multifarious emotionally charged issues involved in medical education and practice, will promote better functioning for medical learners and practitioners.

Self-determination theory (SDT; Deci and Ryan, 2000) offers a unique perspective for understanding how intellectual and emotional integration occurs and the ways that the social context (medical education environment) supports or thwarts such integration. In this article, we discuss the nature of medical education and highlight the chasm between the intellectual and emotional components of medical education and practice. Then we discuss how SDT can address these issues and cite relevant research applying SDT to medical education. Finally, we offer suggestions that may facilitate both research on medical education and the translation of that research into practice in medical educational contexts.

THE NATURE OF MEDICAL EDUCATION

Modern medical education was modeled on the Flexner Report, which resulted in two years of intensive, lecture-style curricula delivered in the classroom involving roughly double the credit hours of typical undergraduate curricula. Students who successfully completed those initial two years spent an additional two years in clerkships learning to apply their classroom knowledge. This medical education model was dominant until educators recognized that a lecture-based curriculum might not optimize learning, as it is based on passive absorption, rather than active construction, of knowledge. Accordingly, some medical curricula have changed to include techniques intended to place students at the center of their learning to facilitate their becoming responsible for acquiring the knowledge needed to address patients' problems.¹ Nonetheless, lecture-based instruction remains a method

of teaching new information, skills, and treatments at all levels of medical training,² and thus has the potential to influence practitioners' well-being and their practice-related quality of life.

THE CHASM BETWEEN INTELLECTUAL AND
EMOTIONAL ASPECTS OF MEDICAL EDUCATION
AND PRACTICE

Medical learners focus their education primarily at the intellectual level (e.g. learning the facts surrounding normal- and patho-physiology). However, the experience and integration of this information also involves an emotional component. Consider a physician who provides a cancer diagnosis. It is critical for that practitioner to have an intellectual understanding of the disease, its prognosis, and possible treatments. However, it is perhaps equally important that the practitioner can effectively cope with the emotional components of this diagnosis, including feeling sadness for the patient and guilt that the practitioner was not able to make the diagnosis sooner.

In recent decades, medical educators have recognized that students and doctors have important emotional responses to their patients and to the problems their patients experience, which have a potential impact on treatment. In response, traditional models of medical education have largely sought to provide medical learners with enough knowledge to feel efficacious in addressing their patients' problems, in order not to let their emotional responses 'get in the way'. Unfortunately, this approach does not promote medical learners' intellectual *and* emotional integration, which may underlie the experience of burnout that some 30% to 60% of physicians report, many during medical school or early in their careers (Shanafelt et al., 2003).

The maladaptive consequences of physicians' failure to integrate their emotional experiences can also impact how practitioners process important diagnostic information and disseminate that information and treatment recommendations to patients (Shanafelt et al., 2002). Thus, physicians' integration of both intellectual and emotional material can also impact their patients. Because patients also experience intellectual and emotional responses to information provided by health-care practitioners, physicians who are aware of, and attuned to, their own emotional responses might be better suited to support patients' psychological needs. When this occurs, patients become more able to effectively self-regulate those recommended behaviors necessary to maintain or improve their health and well-being. In contrast, practitioners who are attuned primarily to the intellectual aspects of medicine might not be able to respond sufficiently to their patients' emotional needs.

THE UTILITY OF SELF-DETERMINATION THEORY IN
MEDICAL EDUCATION

Unfortunately, empirical studies of medical education are nearly non-existent, which leaves classroom practices in medical education disconnected from the findings from evidence-based medical treatments (Bligh and Anderson, 2000). Without theory or empirical evidence to inform medical educators, they must rely on anecdotal experience to construct their models of teaching. Thus, the relations of medical education to educational and psychological theories provides a structured, scientific basis for assessing current classroom practices and informing the development of new practices to facilitate patients' and practitioners' well-being.

Self-determination theory (SDT) is uniquely positioned to address issues related to integration and self-regulation, as it acknowledges humans' tendency toward integration and addresses the social factors that support versus thwart this natural process. Importantly, although many theories of motivation acknowledge the importance of self-efficacy, SDT is the only such theory that posits the existence of three universal, basic psychological needs (autonomy, competence, relatedness). Supports for physicians' relatedness may be particularly important for their navigating the complex emotional issues involved in medical education and practice. Indeed, relationships with colleagues and close others have been shown to promote physicians' well-being and to attenuate the risk of burnout (Shanafelt et al., 2003). The essence of need support is that medical instructors elicit and acknowledge medical learners' perspectives on, and emotional reactions to, the material; support learners' initiatives; minimize control; provide effective options for implementing the material in practice; and provide informational, non-judgmental feedback when possible. Thus, central to the process of internalization is a learning climate that supports medical learners' integration of their intellectual and emotional experiences concerning the material.

We preface our observations about classroom practices in medical education with three assumptions. First, optimal learning occurs when supports are provided for medical learners' psychological needs while presenting relevant intellectual material. Optimal need support involves a balance of (1) warm, positive interpersonal experiences between teachers and students (relatedness support); (2) material that stimulates medical learners' interest and curiosity (autonomy support); and (3) optimal challenges and non-judgmental feedback regarding students' performance (competence support). Second, we assume that medical learners who have had their psychological needs supported are more likely to facilitate their patients' psychological need satisfaction.

Third, we assume that if instructors structured their classroom practices more like blues artists and poets to promote integration of both intellectual and emotional material, such practices would result in greater well-being and satisfaction among physicians and their patients. We now consider the extant research applying SDT to medical education contexts.

SDT APPLICATIONS TO MEDICAL EDUCATION

Some research within SDT has examined outcomes associated with need support among medical learners. Williams and Deci (1996) conducted a longitudinal study of medical learners' introduction to medical interviewing at two US schools. Results demonstrated that students who perceived higher need support from instructors reported higher autonomous self-regulation and competence for interviewing, interest in interviewing, and internalization of biopsychosocial, rather than biomedical, values. Analyses at the two-year follow-up demonstrated that students who were more autonomously self-regulated toward medical interviewing were rated as more autonomy supportive by standardized patients when counseled about cardiovascular risk reduction. Also, the internalization of biopsychosocial values remained evident at follow-up. In sum, this study demonstrated that autonomy-supportive learning environments promoted core values regarding psychosocial and biological causes of disease, and enhanced medical learners' interest, autonomous self-regulation, and competence, which all predict physicians' higher well-being and lower burnout (Shanafelt et al., 2003). Need support is thought to facilitate medical learners' integration of intellectual and emotional experiences related to their patients' problems. Thus, medical learners who perceive higher need support while learning to interview patients are more autonomous in learning to interview, more patient-oriented, more open to a plethora of psychosocial and biological causes of disease, and counsel patients in an autonomy-supportive way.

Two other studies have demonstrated that autonomy-supportive medical instructors facilitate medical learners' interest in, and competence for, their third-year clerkships (Williams et al., 1994; Williams et al., 1997). These studies found that medical learners who perceived higher need support and had greater interest predicted a higher likelihood of students' choosing that specialty for their career. Thus, experiencing need support from instructors facilitated medical learners' interest in, and competence for, a particular medical specialty.

Another study implemented a pre-post, three-month longitudinal design to assess medical learners attending workshops on brief tobacco-dependence

counseling (Williams et al., 2003). Practitioners counsel less than 35% of smokers to quit, despite the high mortality of tobacco use and the fact that there exist effective brief interventions. The workshop was intended to support learners' interest and competence by describing the addictive nature of nicotine and the health benefits of quitting, and by demonstrating the use of a brief model of effective counseling. Workshop leaders sought to integrate practitioners' autonomous self-regulation by directly acknowledging their busy and pressured work environment, which results in under-utilization of this effective treatment, and by asking them to consider what it would take to implement such treatment in practice. Additionally, medical learners were asked to consider the supports they would need to change their own health behaviors, and to consider what stops them from providing such support to their patients. Results suggested that practitioners' perceptions of need support from the instructors facilitated their autonomous self-regulation to provide brief tobacco-dependence counseling, which in turn predicted higher counseling time and use of the 4As (Ask, Advise, Assist, Arrange) over the three months. Change in competence did not predict change in counseling time or use of the 4As; rather, change in competence was predicted by perceived autonomy support and change in autonomous self-regulation. This finding is important for two reasons. First, the current explanation for physicians' not counseling about lifestyle change is that they report feeling untrained (incompetent), and thus our empirical findings extend beyond the current models of medical education (Whitlock et al., 2002; Williams et al., 2005). Second, these findings suggest that instruction would be most effective if it targeted practitioners' willingness (autonomy), as well as their competence, to implement new, effective treatments. So far, these findings highlight the importance of medical instructors' creating learning environments that support autonomy, competence, and relatedness, so as to integrate medical learners' emotional responses to the overwhelming demands on their time (Yarnall et al., 2003) and to motivate their use of effective interventions in practice.

Several randomized clinical trials have been conducted that aim to enhance patients' autonomous self-regulation and therapeutic lifestyle change through autonomy-supportive interventions. Together, these studies show that patients who experience psychological need support from health-care practitioners report higher autonomous self-regulation and positive health-behavior change (Patrick et al., 2008). The relevance of these findings for classroom practice is twofold. First, the patterns of internalization and positive change are the same for medical learners and patients. Second, from previous research, standardized patients rate those medical learners who are

more autonomously self-regulated as more autonomy supportive. Thus, considering the pattern of internalization for practitioners and patients together strengthens the case that autonomy-supportive classroom and clinical practices promote higher autonomous self-regulation, competence, and well-being for both practitioners and patients.

DIRECTIONS FOR THE FUTURE

Currently, there is a mismatch between medicine's movement toward evidence-based practice and the paucity of empirical research on the process and outcomes of medical education. Future research is needed to link theories of education and motivation to inform educational interventions that might improve both physicians' and patients' well-being. It is unlikely that educational interventions that broadly change medical school curricula will be implemented any time soon, and studies would need to demonstrate that such changes enhanced practitioners' and patients' well-being, which might occur several years after medical school is completed. However, there are opportunities to examine the effects of specific educational interventions on well-being and health behavior among students in continuing medical education. Of course, the mechanisms of change involved in such theory-based interventions would also need to be demonstrated. Following those steps, effective educational interventions would need to be translated into practice to demonstrate that those interventions are effective in actual education settings. Investigative teams will probably need to be created to conduct such studies, as medical education has typically not allowed close study of its process.

SDT is particularly well suited to examine outcomes in medical education because it is the only theory that identifies and assesses autonomy. Both medical bioethics (Beauchamp and Childress, 2001) and medical professionalism (ABIM, 2002) identify enhancing patients' autonomy as a clinical endpoint, regardless of whether patients' well-being is also improved. Medicine itself does not require an empirically supported theory to justify interventions that facilitate both practitioners' and patients' autonomy, but medicine and medical education would benefit from a theory that assesses autonomy. Further, from the findings reviewed herein, it is clear that autonomy support and autonomous self-regulation are important in promoting change in well-being, which makes SDT-based interventions even riper for empirical inquiry.

Finally, an additional benefit of SDT is that it focuses on psychological need support as a facilitator of the process of internalization of autonomous self-regulation and competence. Thus, psychological need support represents

a mechanism through which the integration of intellectual and emotional aspects of medical education may occur. Educational environments that attend to medical learners' psychological needs are more likely to acknowledge both the intellectual (e.g. through supporting competence for diagnostic and treatment information) and the emotional (e.g. through supporting autonomy and relatedness in the expression of emotions experienced during medical care) aspects of medical education and practice. Thus, autonomous self-regulation and competence reflect important markers to demonstrate that medical educators are facilitating medical learners' integration of intellectual and emotional material.

CONCLUSIONS

Research on medical education is needed that links theory and content to optimal outcomes for medical learners and patients. Research on SDT suggests that need-supportive medical-education climates promote health-care practitioners' and patients' well-being, as mediated by physicians' enhanced autonomous self-regulation. More research is needed to demonstrate the specific elements of autonomy-supportive learning and health-care climates that are effective in facilitating change in perceived psychological need support, well-being, and burnout.

Medical education climates may promote heightened well-being among practitioners and their patients if medical educators directed their attention not only to the intellectual aspects of medical education, but also to the broader psychological milieu in which medical education and practice occur. Such efforts are expected to enhance practitioners' well-being and to attenuate burnout because they provide more comprehensive support for medical learners' psychological needs during those critical phases of professional development. Such support provides a foundation conducive to physicians' becoming more integrated and capable of providing expert medical information and recommendations to patients, in addition to an emotional climate in which both practitioners and patients can experience the full range of responses to diagnosis and treatment recommendations.

NOTES

1. One such technique is 'problem-based learning', whereby medical students work together in small groups to solve real clinical problems, rather than attending lectures on those topics (Norman and Schmidt, 1992).
2. In this article, the term 'medical learners' is used to refer to medical students, residents, and attending physicians, as all are actively engaged in medical education.

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