



# Competence is Essential but not Sufficient

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Accepted: 8 March 2022 / Published online: 14 March 2022

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## Abstract

Physician loneliness is on the rise, negatively impacting physician well-being and patient care. Some authors have suggested that addressing professional loneliness should begin in medical school. To test this idea, we investigated how medical students' psychological needs impact their performance. Students' survey responses (autonomy, competence, and relatedness needs) were linked with their clinical decision-making scores. In regression analysis, relatedness was determined to be the largest and the only significant predictor of student performance. The findings corroborate the idea of fostering relatedness in medical training. Determining what strategies support relatedness and connection in the digital era is the next logical step.

**Keywords** Professional loneliness · Well-being · Basic psychological needs · Medical students

## Background

The COVID-19 pandemic has hastened changes to allow physicians to continue practicing medicine by connecting with patients and colleagues in different ways. Despite the unprecedented connectivity offered by technological advances, work environments in which physicians practice medicine are paradoxically becoming lonelier, with less face-to-face contact and fewer informal conversations with colleagues [1]. Nonetheless, even before the pandemic, in a 2019–2020 survey of US family physicians, close to 45% identified as feeling lonely, with significant associations with depression and burnout [2]. Physician loneliness is on the rise, negatively impacting not only physician well-being [2, 3], but also performance [2].

According to self-determination theory, an established framework of human motivation, development, and well-being, three basic psychological needs must be perceived as supported in the environment (school, work) for people to thrive. The three needs are *autonomy*—the feeling that one's actions are self-chosen; *competence*—the feeling of being effective in one's actions, and *relatedness*—the feeling of being connected with others [4]. With almost 40 years of research, empirical evidence indicates that support of

people's psychological needs is associated with a range of beneficial outcomes, including adaptive coping, well-being, and performance (see [4, 5] for comprehensive reviews).

As educators, we work hard to ensure learners become competent practitioners of medicine while promoting professional well-being. But how do we further reconcile these two priorities? Perhaps, we can start with developing a better understanding of how learners' psychological needs impact their performance. Inspired by self-determination theory [4], we aimed to explore potential relationships between students' psychological needs and their performance in the core family medicine clerkship, a time of professional identity formation through participation in the activities of medicine.

## Activity

To achieve our goal, we used existing data ( $n = 70$  students; 53% female) that had been collected in the same academic year as part of two larger, independent studies. Clinical decision-making assessment data came from one study. Specifically, these data were in the form of scores (0–100 range) students received when answering questions pertaining to case-based scenarios in the family medicine clerkship. The psychological needs data for the same students came from another study. These data were the students' responses to the 12-item Brien et al.'s [6] scale of basic psychological needs. This scale had been shown to have good measurement properties (internal consistency, factorial structure, measurement invariance) when used with medical

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**Table 1** Means, SDs, correlation, and standardized regression coefficients ( $n=70$ )

| Variables       | <i>M</i> ( <i>SD</i> ) | Correlation coefficients |            |             |          | Standardized regression coefficients, $\beta$ |
|-----------------|------------------------|--------------------------|------------|-------------|----------|---|
|                 |                        | Autonomy                 | Competence | Relatedness | CDM perf |   |
| Autonomy        | 4.48 (0.61)            | 1.00                     |            |             |          | −0.23   |
| Competence      | 4.68 (0.55)            | 0.62**                   | 1.00       |             |          | 0.25  |
| Relatedness     | 4.78 (0.70)            | 0.24*                    | 0.24*      | 1.00        |          | 0.27*   |
| CDM performance | 63.23 (10.05)          | −0.01                    | 0.17       | 0.28*       | 1.00     |   |

Measurement scale for autonomy, competence, and relatedness items: 1 = strongly disagree; 6 = strongly agree. CDM scores range from 0 to 100. For correlation and standardized regression coefficients, \*\* $p < 0.01$ ; \* $p < 0.05$

*M* mean, *SD* standard deviation, *CDM* clinical decision-making

students [7]. Sample needs items are “In my program, I can take on responsibilities” (autonomy); “In my program, I feel competent” (competence); and “When I am with the people from my program, I feel I am a friend to them” (relatedness). The students were asked to indicate how they *typically* felt in relation to their medical program (1—strongly disagree; 6—strongly agree). Higher average scores were indicative of greater support of students’ respective needs in the medical program. The internal consistency reliability values (Cronbach alpha) were 0.73 for autonomy, 0.80 for competence, and 0.86 for relatedness.

Following ethics approval, we linked students’ clinical decision-making scores with their responses on the psychological needs measure using unique study participant codes and master lists for the two studies, and performed descriptive and inferential analyses (*t*-test, regression). We used the independent samples *t*-test to determine if there was a significant difference in students’ clinical decision-making scores based on gender. In the regression analysis, we entered students’ average scores for the three psychological needs (autonomy, competence, relatedness) as explanatory variables of students’ clinical decision-making performance.

## Results

The results of the analyses are shown in Table 1. We observed that of the three psychological needs, the need for relatedness was the largest and the only significant predictor of students’ clinical decision-making performance in the family medicine clerkship ( $\beta = 0.272$ ;  $p = 0.027$ ). Specifically, students who felt their need for relatedness was supported in the medical program scored higher on the assessment of clinical decision-making. There was no significant difference in students’ clinical decision-making scores based on gender ( $t = 0.63$ ,  $df = 67$ ,  $p = 0.53$ ).

## Conclusion

While it is paramount for us, educators, to focus on the acquisition of competencies in learners, the results of this exploratory study indicate that student performance appears to be associated with a sense of relatedness. According to self-determination theory and research, the following are some of the strategies that educators can use and role model to support learners’ need for relatedness: using empathic listening to promote trust and collaboration, engaging in shared decision-making and encouraging learners to ask questions, making learners feel valued through delegating important tasks to them, involving learners in team-related decisions and planning, expressing support irrespective of the outcome (success or failure), and demonstrating common humanity and empathy by acknowledging our own limitations and mistakes [4, 7, 8].

As Frey notes, “A profession is a culture, a way of seeing and acting in the world in which we live. A profession is learned from teachers, colleagues, and examples, both bad and good” [1]. It is our professional duty to help future physicians learn how to connect and relate to each other especially in the era of digital technology and communication where loneliness is on the rise. Further research in this area is warranted.

**Author Contribution** Both authors contributed to the study conception and design, funding acquisition, and data collection. Oksana Babenko performed data analysis and prepared the first draft of the manuscript. Both authors commented on previous versions of the manuscript and read and approved the final manuscript.

**Funding** This work was supported by funding from the Northern Alberta Academic Family Physicians Fund and the Social Sciences and Humanities Research Council of Canada (Grant #430–2016–00267).

**Availability of Data** The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

## Declarations

**Ethics Approval** Ethics approval (#Pro00091368) was granted by the Research Ethics Board at the University of Alberta, July 9, 2019.

**Competing Interests** The authors declare no competing interests.

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