



Influence of Empathy Fatigue on Medical Students' Implicit Absenteeism in Ethnic Minority Areas

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Abstract. With the arrival of the post-epidemic age, many new aspects of the influence of empathic fatigue on covert absenteeism among medical students have surfaced. In this paper, we investigated the data of 600 medical students in schools in minority areas of Yunnan using the Social Connection Scale Revised (SCS-R), the Empathy Fatigue Scale (ProQOL), and the Hidden Absence Scale (SPS-6), and we used the correlation analysis method and the Bootstrap test for modeling and data analysis. The findings demonstrated a significant and positive association between empathy fatigue and hidden absenteeism, and empathy fatigue's mediation influence on medical students' hidden absenteeism accounted for 3.5% of the total effect ratio.

Keywords: medical students; empathy fatigue; hidden absenteeism

1 Introduction

The effectiveness of medical students' education and practice as future healthcare professionals has a significant impact on the development of healthcare. A strong sense of social connectedness[1-2] plays a crucial role as it offers individuals robust social support to share and navigate through negative emotions such as pain and despair. It also provides valuable material and emotional resources to alleviate stress and psychological burdens during challenging situations. Understanding how disguised absence behavior emerges is critical for investigating its impact on social connections. Furthermore, conducting empirical research on the relationship between empathy fatigue[3-4] and hidden absenteeism in the post-epidemic context is of utmost importance. Investigating empathy fatigue as a social connection mediator in ethnic minority populations can shed light on medical students' hidden absenteeism. This study provides new insights.

Hidden absenteeism[5-6] refers to the behavior of an individual who has physical or mental health problems and remains on the job but has a state of apathy, low workload, and low productivity, resulting in a loss of productivity. "Hidden" means that it goes unnoticed, while "absenteeism" means that the employee is present at work, but their

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productivity is almost zero, as in the case of absenteeism. Absenteeism is "hidden" in a way that losses are usually visualized[7]. Research on the factors influencing the study of implicit absenteeism among medical students has primarily focused on instructors' teaching style, curriculum design, and academic characteristics[8-11]. However, related psychological factors influencing variables[12-15] studies have paid less attention to the social connectivity factors of hidden absenteeism among medical students. Accordingly, this study hypothesizes that social connectedness negatively correlates with hidden absenteeism among medical students. Instead, the importance of empathy, as one of the core competencies of medical students, has been widely recognized as it can effectively alleviate doctor-patient conflicts, increase the degree of cooperation, improve patients' negative emotions, and to a certain extent, improve the quality of nursing care and nurses' physical and mental health. However, due to the unique nature of medical work, long-term exposure to highly stressful working environments, and high workload conditions such as illness, disability, and death, these painful experiences can lead to a decrease in empathy and the occurrence of empathy fatigue (Compassion&fatigue, CF). Symptoms of empathy fatigue[16-17] include depression, anxiety, alienation, and feelings of incompetence or rejection, and empathy fatigue will directly or indirectly affect absenteeism.

In summary, this paper investigated the data of 600 school medical students using the Social Connection Scale Revised (SCS-R), the Empathy Fatigue Scale (ProQOL), and the Implicit Absence Scale (SPS-6), with association analysis and the Bootstrap test for modeling and data analysis. The survey study in ethnic minority areas discovered that the higher the level of empathy fatigue of nurses, the greater the risk of concealed absenteeism, and medical survival in the phenomenon of empathy fatigue and hidden absenteeism thus is a close link between the two, the following will be modeling and analyze the study using the statistical analysis method.

2 Subject and Methodology of the Study

2.1 The subject of the study

We used convenience sampling to send 620 questionnaires to undergraduate and postgraduate students from five Chinese medical institutions. The researchers selected 595 questionnaires for examination from the received responses. We acquired a final sample of 565 legitimate surveys for our study after eliminating 30 questionnaires with fraudulent or missing answers.

2.2 Research tools

In this study, the researchers utilized the Professional Quality of Life Scale (ProQOL) developed by Stamm[1]. It consists of 30 questions with a total score of 150 points. The measurement instrument consists of three distinct components: empathic satisfaction, burnout, and secondary trauma. Empathy pleasure is inversely related to empathy fatigue, with higher scores indicating less exhaustion. The overall scale is then calcu-

lated as the inverse of the combined scores, allowing for a total score of 30 to 150. The Cronbach's alpha coefficient for the ProQOL scale in this study was 0.889.

Moreover, the Stanford Presenteeism Scale (SPS-6) [9], developed by Stanford University, was utilized. The scale comprises six items, each scored on a 5-point Likert scale, with a total score of 30 points. Two of the items are reverse-scored. For example, "In the past one month, despite health problems, I have been able to concentrate on my work" and "In the past one month, despite health problems, I have felt energized enough to do all my work." The scale ranges from 6 to 30, with higher scores indicating a greater tendency for hidden absenteeism behaviors. A threshold of 15 was employed to classify hidden absenteeism. The Cronbach's alpha coefficient for this scale was 0.752.

For data processing, SPSS 23.0 was utilized for calculating descriptive statistics, while AMOS 23.0 was employed to conduct chained mediation model tests.

3 Findings

3.1 Deviation test

In this study, we conducted the Harman one-way test to examine the presence of common method bias. Additionally, all the question items used in the study underwent principal component factor analysis. The analysis revealed the identification of five factors with eigenvalues exceeding 1. Notably, the first factor explained 19.7% of the total variation, which fell short of the critical criterion of 40%[1]. These findings indicate the absence of common method bias in the study data, aligning with the statistical requirements.

3.2 Results and Analysis

The findings of the descriptive statistics and correlation analysis (see Table 1 for details) revealed a significant positive correlation between empathy fatigue and hidden absenteeism ($\gamma=0.52$, $p<0.001$). Additionally, a significant negative correlation was evident between social connectedness and both empathy fatigue ($\gamma=-0.62$, $p<0.001$) and hidden absenteeism ($\gamma=-0.51$, $p<0.001$). These results highlight the associations among social connectedness, empathy fatigue, and hidden absenteeism, supporting the subsequent mediation test.

Table 1. Correlation Analysis of Study Variables

Variable	<i>M</i>	<i>SD</i>	Social connection	Empathy fatigue	Hidden absenteeism
Social connection	78.46	13.88	1.00	-	-
Empathy fatigue	72.39	12.95	-0.62***	1.00	-
Hidden absenteeism	14.02	3.04	-0.41***	0.52***	1.00

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$, the same below.

To assess the mediation effect of each mediated path, We employed the bias-corrected nonparametric percentile Bootstrap method to examine the mediation effect of each pathway. If the confidence interval does not include zero, it signifies a significant mediation effect. Please refer to Fig 1 for the comprehensive results of the mediation tests.

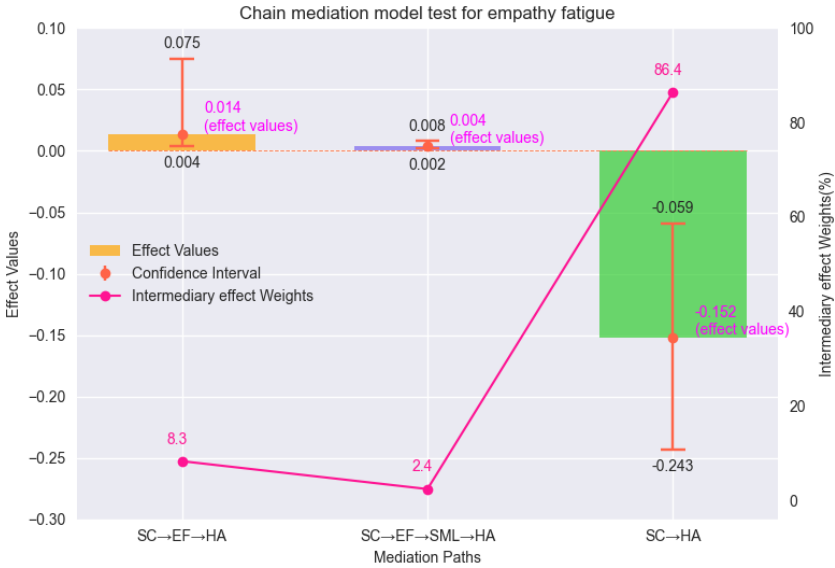


Fig.1.SC(Social connection), EF(Empathy fatigue), HA(Hidden absenteeism), SML(sense of meaning in life)

The mediation effect test results revealed that empathy fatigue significantly mediated the relationship between social connection and college students' hidden absenteeism, accounting for 8.3% of the total effect. Additionally, empowered empathy fatigue and a sense of meaning in life functioned as significant chain mediators between social connection and college students' hidden absenteeism, accounting for 2.4% of the total effect.

4 Conclusions

This study used a chain mediation model to investigate the impact of empathy fatigue factors on medical students' hidden absenteeism in ethnic minority communities. The primary objective was to examine the mediating effect of empathy fatigue on the relationship between social connection and hidden absenteeism among medical students. The results indicated that social connectedness influenced medical students' hidden absenteeism indirectly through the mediating role of empathy fatigue. The study highlights the relationship between empathy fatigue and hidden absenteeism, highlighting their interdependence and suggesting that mitigating empathy fatigue can lead to a decrease in hidden absenteeism. Emotional weariness and negative emotions, in par-

ticular, were identified as contributors to empathy fatigue and, as a result, hidden absenteeism, with more severe emotional exhaustion and negative emotions connected with higher levels of hidden absenteeism.

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