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Background

Medical students are vulnerable to stress due to heavy schoolwork and busy traineeships at school stage and the COVID-19 pandemic may have exacerbated their mental health risks.

The good mood and less psychological stress of medical students may help to cope with different crises at the personal level and even in future careers.

Objectives

It analyzed the new psychological characteristics and formation mechanism caused by the spread of the epidemic under the technology empowerment.

Expanding the theoretical boundary of behavioral immune response under public health emergencies.

It provide solutions to prevent the world from falling into "health poverty" in emergencies from the perspective of Chinese medical students.

Methods

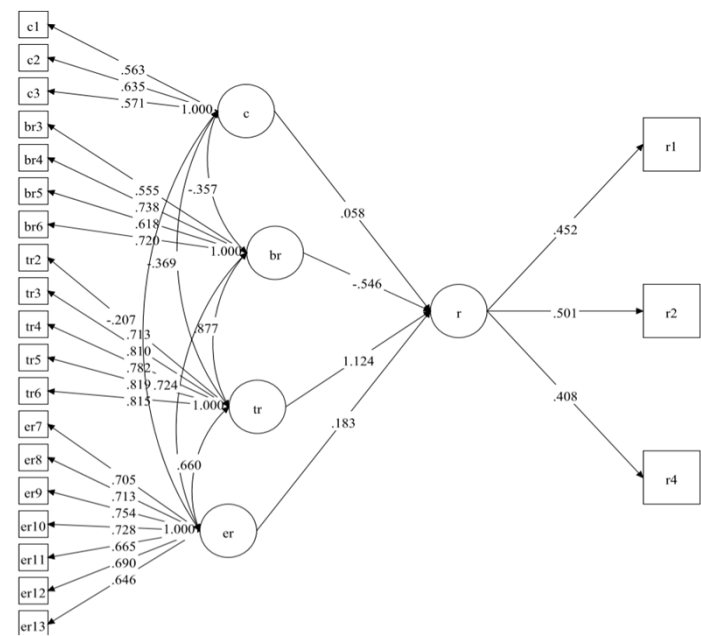
We propose a comprehensive conceptual model based on behavioral immune system theory.

The analysis of data were obtained from a cross-sectional survey, including 1015 participants from one Chinese medical university. It is sampled monthly according to the number of students in different grades based on the principle of multi-stage random sampling from September 2020 to June 2021.

The Structural Equation Model includes five categories of 31 potential variables: online public opinion dissemination, behavioral immune response, false belief, emotional response and physiological and psychological state.

Results

1. Through hypothesis testing and path analysis of the theoretical model, we obtained the final standardized coefficient correction model.



2. We conceived a conceptual model to reflect the impact of emotional response, behavioral immune response and false belief on physical and mental health of medical students in the epidemic of infectious diseases under the background of technology empowerment.

H1a: The spread of the epidemic has a significant impact on emotional response

H1b: The spread of the epidemic has a significant impact on false beliefs

H1c: The spread of the epidemic has a significant impact on the behavioral immune response

H2a: Emotional response has significant influence on behavioral immune response

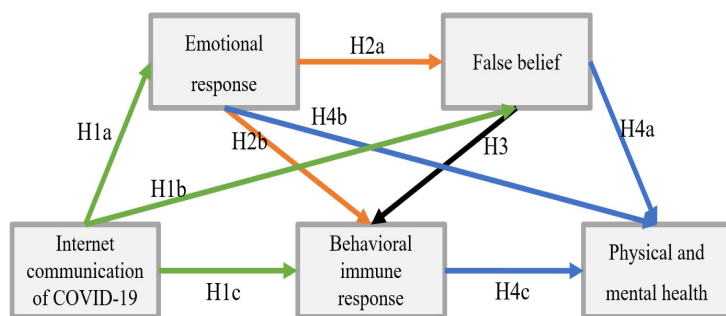
H2b: Emotional reaction has significant influence on false belief

H3: False beliefs have a significant impact on behavioral immune response

H4a: Emotional reaction has a significant impact on mental health

H4b: false beliefs have a significant impact on mental health

H4c: behavioral immune response has significant impact on mental health



3. Discriminant validity analysis of five dimensional indicators.

Discriminate validity

	R	ER	TR	BR	C
R	0.455	0.518	0.744	0.551	-0.200
ER		0.701	0.660	0.724	-0.207
TR			0.789	0.877	-0.369
BR				0.662	-0.357
C					0.591

Diagonal words: the square root of AVE
Upper triangle: Pearson correlation of dimensions

Conclusion

The spread of the epidemic under the empowerment of network technology has greatly affected the physical and mental health of Chinese medical students and led to a potential "hidden crisis".

This negative state may last for a long time and may induce a large number of countries in the world to fall into health poverty in the future.

We further found that strong emotional perception and false belief can trigger behavioral immune response and strengthen the negative psychology caused thereby.