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## Relationship Between Physical Activity and Mental Health in Chinese Engineering College Students During COVID-19

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## Relationship Between Physical Activity and Mental Health in Chinese Engineering College Students During COVID-19

### Abstract

The issue of mental health among college students is concerning during COVID-19 outbreak. Since engineering college students are vulnerable to mental health issues, the objectives of this study were: (1) to analyze the relationship between physical activity, parental psychological control, basic psychological needs, anxiety, and mental health in Chinese engineering college students during COVID-19 pandemic; and (2) to examine the mediation effect of anxiety between the relationship of basic psychological needs and mental health. A cross-sectional study was conducted among several universities in Shandong Province, China. We randomly selected 254 Chinese engineering college students. Participants completed the Physical Activity Rating Scale (PARS-3), Basic Needs Satisfaction in General Scale (BNSG-S), Parental Psychological Control Questionnaire, the Beck Anxiety Inventory (BAI), and the Kessler 10 (K10) scale. The mediation model was conducted to assess the mediation effect of anxiety between the relationship of basic psychological needs and mental health. Among 254 Chinese college students majoring in engineering, their mental health was in the mid-level range. Besides, physical activity and basic psychological needs is positively correlated with mental health, respectively, while parental psychological control is not correlated with mental health. Anxiety is negatively associated with mental health. Mediation analysis revealed that anxiety played a mediation role in the relationship between basic psychological needs and mental health. To our knowledge, this is the first study to examine the relationships between physical activity, parental psychological control, basic psychological needs, anxiety, and mental health in Chinese engineering college students during COVID-19 pandemic. Mental health of Chinese engineering college students deserves extensive attention during COVID-19 pandemic. In the current study, we found that physical activity, basic psychological need was positively associated with mental health, while anxiety was negatively correlated to mental health. Besides, anxiety played a mediation effect in the relationship between basic psychological needs and mental health. Government or educators can guide and help meet students' basic psychological needs and promote physical activity participation, thus reducing their anxiety level and improving their mental health.

# **Relationship Between Physical Activity and Mental Health in Chinese Engineering College Students During COVID-19**

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## **Abstract**

The issue of mental health among college students is concerning during COVID-19 outbreak. Since engineering college students are vulnerable to mental health issues, the objectives of this study were: (1) to analyze the relationship between physical activity, parental psychological control, basic psychological needs, anxiety, and mental health in Chinese engineering college students during COVID-19 pandemic; and (2) to examine the mediation effect of anxiety between the relationship of basic psychological needs and mental health. A cross-sectional study was conducted among several universities in Shandong Province, China. We randomly selected 254 Chinese engineering college students. Participants completed the Physical Activity Rating Scale (PARS-3), Basic Needs Satisfaction in General Scale (BNSG-S), Parental Psychological Control Questionnaire, the Beck Anxiety Inventory (BAI), and the Kessler 10 (K10) scale. The mediation model was conducted to assess the mediation effect of anxiety between the relationship of basic psychological needs and mental health. Among 254 Chinese college students majoring in engineering, their mental health was in the mid-level range. Besides, physical activity and basic psychological needs is positively correlated with mental health, respectively, while parental psychological control is not correlated with mental health. Anxiety is negatively associated with mental health. Mediation analysis revealed that anxiety played a mediation role in the relationship between basic psychological needs and mental health. To our knowledge, this is the first study to examine the relationships between physical activity, parental psychological control, basic psychological needs, anxiety, and mental health in Chinese engineering college students during COVID-19 pandemic. Mental health of Chinese engineering college students deserves extensive attention during COVID-19 pandemic. In the current study, we found that physical activity, basic psychological need was positively associated with mental health, while anxiety was negatively correlated to mental health. Besides, anxiety played a mediation effect in the relationship between basic psychological needs and mental health. Government or educators can guide and help meet students' basic psychological needs and promote physical activity participation, thus reducing their anxiety level and improving their mental health.

*Keywords:* physical activity, parental psychological control, basic psychological needs, anxiety, mental health