The Combined Effects of Paired Protective and Risk Factors on College Students' Mental Health: Insights from Response Surface Analysis

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The absence of risk factors does not equate to the presence of protective factors, and vice versa. There is ample psychometric evidence indicating that positive and negative items sometimes do not represent opposite ends of one dimension but rather constitute two distinct dimensions. However, mental health research rarely examines both sides simultaneously. This study attempts to use response surface analysis to explore the combined impact of relevant protective and risk factors on college students' mental health. A range of protective and risk factors (e.g., childhood abuse versus childhood security, loneliness versus social support, pessimism versus optimism, and behavioral inhibition versus behavioral activation) were purposively selected and paired, and their joint effects on mental health outcomes (e.g., psychological strain, depression, and suicidal risk) were examined among 454 college students. The results showed that risk factors and protective factors were equally important to the mental health of individuals. When risk factors were superimposed and protective factors were lacking, individuals were at significantly higher risk of suicide. However, when risk factors and protective factors coexist, they may lead to increased psychological strain and depression, but protect individuals from suicide risk to some extent. The joint influences of protective and risk factors showed different patterns on different outcome indicators. These findings emphasize the importance of integrating both positive and negative factors when examining their impacts, and provide a more comprehensive and effective guidance for the prevention and intervention of mental illness.

Keywords: mental health; response surface analysis; suicidal risk; depression