Exploring the Mechanism of Hope's Influence on Suicidal Ideation in Adolescents

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Abstract: Hope, a significant construct in positive psychology research, was investigated in this study for its mechanism of influence on suicidal ideation in adolescents. A questionnaire survey was administered to 152 university students, utilizing the Adult Dispositional Hope Scale and a suicidal ideation scale. The results indicated a significant negative correlation between hope and suicidal ideation (r= -.55), and hope demonstrated a significant negative predictive effect on suicidal ideation (β= -.55). This suggests that hope, with pathway thinking and agency thinking at its core, serves as a key positive psychological resource for mitigating suicide risk among adolescents. The conclusions support the applicability of the cognitive theory of hope in the field of suicide prevention and provide empirical evidence for conducting adolescent psychological crisis prevention by fostering hope.

Keywords: Adolescent; Hope; Suicidal ideation

1. Introduction

Hope, a concept within positive psychology, has not historically received extensive attention. With the rise of postmodernist thought, hope has gradually transitioned from its origins in theology and philosophy to become a measurable scientific variable, attracting significant focus from psychologists. In the context of students' academic lives, the concept of "hope" plays a crucial role, shaping their perception of current experiences and future plans, embodying positive expectations and the desire to achieve desired outcomes. In psychological research, Miller and Powers defined hope as "a set of expectations and depictions of a good state or thing, a feeling of being able to rise above or get out of a predicament" [1]. Subsequently, a growing number of scholars have contributed to this field, with some conceptualizing hope as a cognitive state towards events and others viewing it as an emotional experience. Currently, the most widely accepted perspective is the integrative cognitive-emotional model proposed by Snyder et al. [2]. They define hope as "a positive motivational state based on an interactively derived sense of successful agency (goal-directed energy) and pathways (planning to meet goals)", where pathway thinking and agency thinking are its two core, mutually reinforcing components.

Although substantial research on hope exists, it has predominantly focused on its measurement and general impact on individuals—for instance, individuals with higher levels of hope tend to possess more positive self-concepts and greater positive psychological qualities. Research specifically examining the influence of hope on individual suicide risk is relatively scarce, particularly concerning its impact within the university student population.

Suicide has become a severe issue confronting contemporary society and campuses, with adolescent suicide meriting particular exploration and concern. According to World Health Organization data, approximately 800,000 people die by suicide globally each year, equating to one suicide every 40 seconds, making suicide the second leading cause of death among adolescents [3]. Suicide exists on a behavioral continuum, encompassing suicidal ideation, suicide attempts, and completed suicide [4]. Suicidal ideation represents the first and most critical step toward suicidal behavior. In daily life, negative emotions such as depression and frustration can influence an individual's level of suicidal ideation. Effectively addressing and eliminating suicidal ideation at its onset can not only prevent the progression to suicidal acts but also enhance the individual's overall well-being.

As an important positive psychological resource, the protective role of hope enables individuals to buffer the adverse effects of psychological depletion when facing negative events. Hope exhibits negative correlations with detrimental states such as depression, suicidal ideation, rumination, and anxiety. Based on this rationale, this study aimed to analyze the impact of adolescents' hope levels on their suicidal ideation, propose corresponding enhancement strategies to reduce suicidal ideation, and provide references and a scientific basis for school education and family management practices.

2. Participants and methods

2.1. Participants

A random sampling method was employed to select 173 undergraduate students as participants. Data were collected using self-report scales. After excluding invalid responses, a total of 152 valid datasets were obtained.

2.2. Measures

2.2.1. Hope

The Adult Dispositional Hope Scale (ADHS), developed within Snyder's hope theory framework, was used. It is a widely used scale for assessing hope in individuals aged 15 and above [5]. It employs a 4-point Likert scale (1=Definitely False to 4=Definitely True) and contains 12 items divided into two subscales: Pathway Thinking and Agency Thinking. The scale demonstrates good reliability and validity.

2.2.2. Suicidal Ideation

Suicidal ideation was measured using the Positive and Negative Suicide Ideation Inventory (PANSI), revised by Gong et al. The scale employs a 5-point Likert scale (1=Never to 5=Always) and contains 14 items: 6 items measure positive suicidal ideation, and 8 items measure negative suicidal ideation. A higher total score indicates a higher level of overall suicidal ideation. The scale reported an internal consistency coefficient (Cronbach's α) of .90, indicating good reliability and structural validity [6].

2.3. Statistical analysis

The collected data were processed and analyzed using SPSS 26.0. Descriptive statistics, Pearson correlation

analysis, and linear regression analysis were conducted. A *P*-value of less than .05 was considered statistically significant.

3. Results

3.1. Test for common method bias

Harman's single-factor test was conducted to check for common method bias. Exploratory factor analysis results indicated that the first common factor explained 29.96% of the variance, which is below the critical threshold of 40%, suggesting no significant common method bias.

3.2. Descriptive analysis of variables

In this study, the mean score for hope was M = 3.00, SD = 0.39; the mean score for suicidal ideation was M = 1.83, SD = .77. The results are presented in **Table 1**.

Table 1. Descriptive statistics of each variable

Variable	Mean (M)	Standard Deviation (SD)
Hope	3.00	0.39
Suicidal Ideation	1.83	0.77

3.3. Correlation analysis between variables

Pearson correlation analysis revealed a significant negative correlation between hope and suicidal ideation, r=-.55, *P*<.001.

3.4. Regression analysis of hope predicting suicidal ideation

A linear regression analysis, controlling for other potential variables, indicated that hope significantly negatively predicted the level of suicidal ideation, β=-.55, t=-6.28, *P*<.001. Hope accounted for approximately 40% of the variance in suicidal ideation scores (Adjusted R^2 =0 .40). Detailed results are shown in **Table 2**.

Table 2. Regression analysis of hope predicting suicidal ideation

Predictor	R^2	Adj.R^2	β	t	*P*
Hopelessness - Suicidal ideation	0.44	0.40	-0.55	-6.28 [***]	0.00

Note: ***P<0.001

4. Discussion

This study aimed to explore the intrinsic relationship between hope and suicidal ideation in adolescents. Analysis of survey data from 152 university students confirmed the research hypothesis: the level of hope in adolescents has a significant negative predictive effect on their suicidal ideation. Specifically, the total hope score showed a moderate negative correlation with the suicidal ideation score (r = -0.55), and regression analysis indicated that hope independently explained 40% of the variance in suicidal ideation (β = -.55). This finding provides direct evidence for understanding internal protective factors against suicide risk in adolescents

and expands the application of positive psychology in crisis intervention.

4.1. Theoretical interpretation: Hope as a psychological buffer against suicidal ideation

The results clearly indicate that a high level of hope is a significant psychological resource for resisting suicidal ideation in adolescents. This conclusion is strongly supported by Snyder's cognitive theory of hope, which defines hope as a goal-oriented cognitive-motivational system consisting of two interrelated dimensions: "pathway thinking" (the capacity to plan routes to goals) and "agency thinking" (the motivational drive to use those routes) [2]. Hope likely buffers against suicidal ideation through the following mechanisms:

First, individuals with high hope possess stronger future orientation and problem-solving abilities. Adolescents with clear "pathway thinking" are more inclined to actively conceive multiple solutions when facing challenges, rather than falling into a sense of hopelessness. This belief in "how to get there" effectively counters the cognitive constriction common in suicidal ideation—the distorted cognition that suicide is the only solution [4].

Second, strong "agency thinking" provides individuals with the intrinsic energy to overcome adversity. Even when encountering setbacks, highly hopeful individuals maintain the belief that "I can do it", which drives persistence and reduces the risk of suicidal thoughts arising from cumulative failures or helplessness. Therefore, hope is not a vague optimism but a concrete, operable system of goal-directed cognitive strategies that enhances psychological resilience and coping efficacy, fundamentally undermining the psychological conditions for suicidal ideation.

This finding aligns with research viewing hope as a core element of positive psychological capital and provides specific empirical support in the domain of adolescent suicide risk [2]. It confirms that positive psychological qualities play a critical protective role in severe psychological crises. The significant negative correlation ($r = -.55$) suggests that fostering hope is a promising focus for front-end suicide prevention interventions among adolescents.

4.2. Dialogue with existing research: Deepening and expansion

The results align with current trends in research on hope and negative psychological outcomes. While numerous studies have confirmed stable negative correlations between hope and depression, anxiety, and rumination, this study explicitly extends this protective association to the more clinically significant variable of "suicidal ideation", addressing a research gap in this area among university students.

Notably, the predictive strength of hope on suicidal ideation in this study ($\beta = -0.55$, $R^2 = 0.44$) is considerable. This suggests that among late adolescents (i.e., university students) facing identity construction and future planning pressures, hope may be a particularly sensitive and powerful psychological indicator. Compared to studies on adults or broader age ranges, fluctuations in hope among adolescents may be more directly linked to their emotional crisis levels, deepening our understanding of hope's developmental function in both growth promotion and crisis prevention.

Furthermore, the integrated hope scale (ADHS) and suicidal ideation scale (PANSI) used demonstrated good psychometric properties, and the non-significant common method bias enhances internal validity. The results support the applicability of Snyder's cognitive integrative model in predicting extreme negative outcomes, indicating that the mechanism by which hope counteracts despair and self-destructive tendencies is stable and measurable.

4.3. Limitations and future directions

While interpreting the positive findings, several limitations must be considered, pointing to future research directions.

First, limitations regarding sample representativeness and size. The sample was limited to university students, which, while targeted, affects generalizability. Future research should expand the sample size and include adolescents from different regions, educational stages, and non-student populations to test the cross-group stability of hope's protective effect.

Second, causal inference limitations due to the cross-sectional design. Although a strong correlation and predictive relationship were revealed, causality cannot be strictly determined. Future research should employ longitudinal designs to clarify dynamic interactions or conduct intervention experiments to observe changes in suicidal ideation following hope enhancement, providing more robust causal evidence.

Third, the exploration of underlying mechanisms needs to be deepened. This study examined the main effect of hope on suicidal ideation, but complex mediating pathways may exist. For example, hope might indirectly affect suicidal ideation by reducing depressive symptoms, decreasing rumination, enhancing help-seeking behavior, or elevating meaning in life [6]. Future research should construct and test more complex structural equation models to reveal specific psychological process chains.

Fourth, complementarity of measurement tools. Reliance on self-report scales may be influenced by factors like social desirability. Future studies should combine interviews, diary methods, or experimental tasks (e.g., future scenario imagination) for multi-dimensional assessment, making conclusions more comprehensive.

4.4. Practical implications and intervention prospects

Despite limitations, the results have clear implications for adolescent mental health education and suicide prevention.

At the school level, "hope cultivation" should be systematically integrated into mental health and career planning curricula. Educators can design interventions based on hope theory, such as "goal decomposition and path design" training to enhance pathway thinking and "success experience review and positive self-talk" exercises to strengthen agency thinking. For students with low hope identified through screening, targeted group counseling can be provided. Hope assessment should be considered an important supplementary indicator for identifying suicide risk alongside routine depression and anxiety screenings.

At the clinical and counseling level, therapists can incorporate hope enhancement as a core component of interventions for suicidal ideation. Techniques compatible with hope theory within Cognitive Behavioral Therapy (CBT), such as challenging absolutist "hopeless" thoughts and co-creating step-by-step behavioral activation plans, can be utilized. Integrating hope construction into the therapeutic framework provides a guiding light for adolescents in despair.

At the family and societal levels, parents should foster children's future-oriented optimism and problem-solving skills, encouraging them to accumulate "I can do it" experiences by overcoming small challenges. Society should create a supportive environment, offering diverse developmental pathways and role models to reduce the sense of hopelessness stemming from singular evaluation standards like academic performance alone.

In summary, this study confirms that hope is a significant negative predictor of suicidal ideation in adolescents, supporting the key role of positive psychological resources in crisis prevention. This finding

empirically enriches Snyder's hope theory, extends its practical value to suicide prevention, and offers a new perspective on adolescent psychological resilience. The "pathway" and "agency" thinking inherent in hope are crucial psychological assets that help adolescents maintain direction and strength in adversity, distancing them from despair. Future research should advance with broader samples, longitudinal designs, and deeper mechanism exploration. In practice, the conscious and systematic cultivation of hope in adolescents should be a shared goal for families, schools, and society, potentially building a solid foundation for suicide prevention and mental health promotion.

Disclosure statement

The authors declare no conflict of interest.

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