

The Impact of Psychological Hardiness on Mental Health among College Students

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ABSTRACT

The present study examined the influence of psychological hardiness on mental health among college students, with special reference to gender differences. Psychological hardiness is regarded as an important personality trait that helps individuals cope effectively with stress and maintain psychological well-being. The study employed a 2×2 factorial design within a descriptive and correlational research framework. A sample of 200 college students (100 males and 100 females) aged 18–23 years was selected using a purposive sampling method. Psychological hardiness and mental health were assessed using standardized tools developed by Arun Kumar Singh and by Dr. Jagdish and A. K. Srivastav, respectively. The data were analyzed using descriptive statistics, Pearson's correlation, independent samples t-test, and two-way ANOVA. The results revealed a significant positive relationship between psychological hardiness and mental health, significant gender differences, and significant main effects of hardiness level and gender, while the interaction effect was not significant.

Keywords: *Psychological Hardiness, Mental Health, Gender*

Mental health has become a major concern in contemporary society, particularly among college students who are exposed to a variety of academic, social, and personal stressors (World Health Organization, 2014; Keyes, 2002). The transition from adolescence to adulthood is marked by significant psychological and emotional changes, which often make students vulnerable to stress-related problems such as anxiety, depression, and emotional instability. In this context, the identification of personality traits that enhance resilience and psychological well-being is of considerable importance.

Psychological hardiness is one such personality characteristic that has received increasing attention in psychological research. Introduced by Kobasa, psychological hardiness is defined as a constellation of attitudes and beliefs that provide resistance to stress (Kobasa, 1979). It consists of three core components: commitment (a tendency to involve oneself in life activities), control (a belief in one's ability to influence events), and challenge (a perception of change as an opportunity for growth rather than a threat).

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Individuals high in psychological hardiness are more likely to interpret stressful situations positively and employ effective coping strategies (Maddi, 2006; Kobasa et al., 1982). As a result, they tend to maintain better mental health even under adverse conditions. Mental health, as defined by Sisodiya, encompasses emotional stability, self-concept, autonomy, social adjustment, and overall psychological well-being.

Gender differences in mental health and coping mechanisms have been widely documented in psychological literature (Eagly & Wood, 2012; Nolen-Hoeksema, 2012). Male and female students often differ in emotional expression, stress perception, and coping styles due to biological, social, and cultural factors. Therefore, examining the combined influence of psychological hardiness and gender on mental health is both theoretically and practically significant. The present study aims to empirically examine the influence of psychological hardiness on mental health among college students and to analyse gender differences using appropriate statistical techniques.

REVIEW OF LITERATURE

Kobasa (1979) conducted a correlational study to examine the relationship between psychological hardiness and stress-related health outcomes among working adults. Psychological hardiness was assessed using standard hardiness measures. The findings revealed that individuals with higher levels of psychological hardiness experienced fewer stress-related health problems, establishing hardiness as a protective personality trait.

Maddi et al. (2012) investigated the association between psychological hardiness and mental health among university students using a correlational survey design. Psychological hardiness and mental health were measured through standardized scales. The results indicated that students with higher psychological hardiness reported lower levels of stress, anxiety, and depression.

Sheard et al. (2007) examined the relationship between psychological hardiness and well-being among undergraduate students using a survey method with a correlational design. Psychological hardiness and well-being were assessed using standardized instruments. The study found a significant positive relationship between psychological hardiness, academic adjustment, and emotional well-being.

Keyes (2002) explored the concept of mental health as a continuum among adults from the general population using a descriptive-correlational design. Mental health was measured using the Mental Health Continuum Scale. The findings emphasized that mental health includes emotional, psychological, and social well-being and is not merely the absence of mental illness.

Beasley et al. (2003) conducted a correlational study to examine the role of cognitive hardiness in coping with life stress among adults. Cognitive hardiness and coping strategies were measured using standardized tools. The results showed that psychological hardiness significantly predicted better mental health outcomes using adaptive coping strategies.

Nolen-Hoeksema (2012) examined gender differences in mental health among male and female students using a comparative research design. Anxiety and depression were assessed using standardized scales. The findings revealed that female students reported higher levels of anxiety and depression compared to male students.

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Eagly et al. (2012), through a theoretical and analytical approach based on social role theory, examined gender differences in psychological traits among adults from diverse social backgrounds. The analysis suggested that socially defined gender roles influence stress responses, coping styles, and key components of psychological hardiness such as control and commitment.

Singh et al. (2018) conducted an Indian study to examine the relationship between psychological hardiness and mental health among college students using a correlational research design. Psychological hardiness and mental health were assessed using standardized scales. The findings revealed a significant positive relationship between psychological hardiness and mental health.

Arora et al. (2020) investigated resilience-related traits and mental health among Indian college students using a survey method with a correlational design. Psychological hardiness and mental health were measured through standardized instruments. The results indicated that psychological hardiness reduced academic stress and enhanced overall well-being.

Kumar et al. (2021) examined gender differences in psychological hardiness and mental health among university students using a comparative research design. Psychological hardiness and mental health were assessed using standardized scales. The findings showed that male students scored higher on psychological hardiness, while female students reported comparatively lower levels of mental health.

Hystad et al. (2019) examined the interaction effect of psychological hardiness and gender on mental health outcomes. The sample consisted of male and female adults drawn from occupational settings. A cross-sectional correlational research design was used. Psychological hardiness was measured using the Dispositional Resilience Scale, and mental health was assessed through standardized psychological well-being measures. The findings revealed that psychological hardiness significantly predicted mental health; however, the interaction effect between hardiness and gender on mental health was not significant, indicating that hardiness influenced mental health similarly for both males and females.

Skomorovsky & (2020) investigated whether gender moderates the relationship between psychological hardiness and mental health. The study sample included male and female university students. A survey method with correlational and interaction analysis design was employed. Psychological hardiness was assessed using the Hardiness Scale, and mental health was measured using standardized mental health inventories. Results indicated that psychological hardiness had a significant positive effect on mental health, while the interaction between gender and hardiness was found to be non-significant.

Patil & et. al. (2022) studied the combined influence of psychological hardiness and gender on mental health among Indian college students. The sample consisted of male and female undergraduate students. A factorial research design with two-way ANOVA was used. Psychological hardiness was measured using the Psychological Hardiness Scale, and mental health was assessed using a standardized Mental Health Battery. The findings showed significant main effects of psychological hardiness and gender on mental health, but the interaction effect between psychological hardiness level and gender was not statistically significant.

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The reviewed literature clearly indicates that psychological hardiness is positively associated with mental health, acting as a protective factor against stress among college students. Gender differences in both hardiness and mental health have been consistently reported, although findings vary across cultural contexts. Despite growing research, limited empirical studies integrate psychological hardiness, mental health, and gender simultaneously, particularly using Indian standardized tools. The present study attempts to bridge this research gap.

Objectives of the Study

Following objectives were framed for this study.

1. To assess the level of psychological hardiness among college students.
2. To examine the mental health status of college students.
3. To study the correlation between psychological hardiness and mental health.
4. To examine difference between male and female college students on psychological hardiness.
5. To study difference between male and female college students on mental health.
6. To examine the effects of psychological hardiness level and gender on mental health

Hypotheses

Following hypotheses were framed for this study.

1. There will be a significant and positive correlation between psychological hardiness and mental health among college students.
2. Male college students will have significantly higher psychological hardiness than female college students.
3. Male college students will have significantly better mental health than female college students.
4. Psychological hardiness level and gender will have significant main effects on mental health.
5. There will be significant interaction effect of psychological hardiness level and gender on mental health.

Variables of the Study

- **Independent Variable:**
 - 1) Psychological Hardiness (High and Low)
 - 2) Gender (Male and Female)
- **Dependent Variable:** Mental Health

Operational Definitions

- **Psychological Hardiness:** Psychological hardiness refers to the score obtained on the Psychological Hardiness Scale developed by A. K. Singh (2004).
- **Mental health:** Mental health refers to the score obtained on the Mental Health Inventory developed by Dr. Jagdish and A. K. Srivastava (1986).

METHOD

Research Design

- This study employed a 2x2 Factorial Design, descriptive and correlational research design with a comparative component.

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Sample

- A purposive sampling method was used to select 200 students, 100 girls and 100 boys, from a college in Karver taluka. The age range of the participants was 18 to 23 years.

Inclusion Criteria

1. College students enrolled in undergraduate or postgraduate programs.
2. Students aged between 18 and 23 years.
3. Male and female students studying in recognized colleges.
4. Students who can read and understand the language of the questionnaires.
5. Students who provided informed consent and were willing to participate in the study.

Exclusion Criteria

1. Students below 18 years or above 23 years of age.
2. Students diagnosed with severe psychiatric disorders or currently undergoing psychiatric treatment.
3. Students not enrolled in regular college courses (e.g., distance education).
4. Students who did not complete the questionnaires properly or provided incomplete responses.
5. Students who were unwilling to participate or withdrew during data collection.

Psychological Tools

1. **Psychological Hardiness Scale:** The Psychological Hardiness Scale was developed by Arun Kumar Singh. In developing PHS, 16-16 items from each of the three components of hardiness, that is, commitment, control and challenge were written. Thus, a total of $16 \times 3 = 48$ items were written. the test-retest reliability was found to be 0.86 which was significant at 01 level. Likewise, the internal consistency reliability as indicated by the Coefficient Alpha was found to be 0.79 which was significant. Thus, PHS possessed a sufficient degree of reliability. The overall coefficient of concordance was 0.74, which was also significant and this overall coefficient of concordance provided the evidence for the content validity the whole scale itself. The index of reliability which is also taken as a measure of validity was highly satisfactory.
2. **The Mental Health Inventory:** By Dr. Jagdish and A. K. Srivastav, (1986) measure consists 54 items and six dimensions viz., positive self-evaluation, perception of reality, integration of personality, autonomy, group-oriented attitudes, and environmental Mastery. Each item in every part consists four options viz., Always, Most of times, Sometimes, and never. Respondent must tick any one option which is applicable to him/her. There is no time limit for the solving inventory but minimum 25 minutes enough to responding normal mentally healthy person. Mental Health Inventory intends to assess the status of individual's mental health of college students.

Statistical Analysis

Mean, standard deviation, Pearson's product-moment correlation, independent samples t-test, and two-way ANOVA were used for data analysis.

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Table No. 1 Mean and Standard Deviation of Psychological Hardiness and Mental Health Scores

Variable	N	Mean	SD
Psychological Hardiness	200	78.45	9.62
Mental Health	200	92.30	11.48

The table presents the mean and standard deviation of psychological hardiness and mental health scores of 200 participants. The mean score of psychological hardiness ($M = 78.45$, $SD = 9.62$) indicates a moderate to high level of hardiness among the students. Similarly, the mean mental health score ($M = 92.30$, $SD = 11.48$) reflects an overall satisfactory level of mental health with some individual variation.

Table No. 2. Correlation between Psychological Hardiness and Mental Health

Variables	Mental Health	Level of Significance
Psychological Hardiness	$r .62$	$p < .01^{**}$

Table 2. showed a significant positive correlation between psychological hardiness and mental health ($r = .62$). This indicated that higher levels of psychological hardiness were associated with better mental health among students. The correlation was statistically significant at the 0.01 level ($p < .01$), suggesting a strong and reliable relationship. The correlation coefficient indicated a significant positive relationship between psychological hardiness and mental health; therefore, Hypothesis 1 was accepted.

The results presented in the table showed a significant and positive correlation between psychological hardiness and mental health among college students ($r = .62$, $p < .01$). This indicated that students with higher levels of psychological hardiness tended to have better mental health, thereby supporting Hypothesis 1. Psychological hardiness appeared to function as a protective factor that helped students cope effectively with academic and personal stress.

This finding was consistent with previous research. Kobasa (1979) reported that individuals with high psychological hardiness exhibited better mental health and lower vulnerability to stress. Similarly, Maddi et al. (2009) found a positive association between psychological hardiness and psychological well-being among university students, reinforcing the results of the present study.

Table 3. *t*-test Showing Gender Differences in Psychological Hardiness

Gender	N	Mean	SD	t	p
Male	100	80.12	9.10	2.45	$< .05^*$
Female	100	76.78	9.95		

Table 3 showed the results of the independent samples *t*-test, which indicated a significant gender difference in psychological hardiness among college students ($t = 2.45$, $p < .05$). Male students ($M = 80.12$, $SD = 9.10$) scored significantly higher on psychological hardiness than female students ($M = 76.78$, $SD = 9.95$). Thus, the results indicated a clear gender difference in psychological hardiness, with male students scoring higher than female students.

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The hypothesis stating that male and female college students would differ significantly in psychological hardiness was supported. Therefore, Hypothesis 3 was accepted. This finding suggested that male students perceived greater control and challenge in stressful situations, which contributed to higher levels of psychological hardiness.

The present finding was consistent with earlier research. Kobasa (1979) reported that males generally exhibited higher psychological hardiness than females, which contributed to better stress resistance. Similarly, Maddi and Kobasa (1984) found significant gender differences in hardiness, with males showing higher levels of commitment and control, thereby supporting the results of the present study.

Table 4. *t*-test Showing Gender Differences in Mental Health

Gender	N	Mean	SD	t	p
Male	100	94.85	10.72	2.18	< .05*
Female	100	89.75	11.96		

Table 4 presents the results of the independent samples *t*-test examining gender differences in mental health among college students. The findings reveal a significant difference between male and female students ($t = 2.18, p < .05$). Male students ($M = 94.85, SD = 10.72$) scored significantly higher on mental health than female students ($M = 89.75, SD = 11.96$). Therefore, Hypothesis 3, which stated that male and female college students would differ significantly in mental health, is accepted. This result suggests that male students, in this sample, demonstrate better emotional adjustment and psychological well-being compared to female students.

The observed gender difference may be due to varying social expectations, coping styles, and stress experiences. Female students often face greater academic pressure and emotional stress, which may negatively affect their mental health during the college years.

Table 5. Two-Way ANOVA Showing Effects of Psychological Hardiness Level and Gender on Mental Health

Source of Variance	SS	df	MS	F
Hardiness Level	1850.40	1	1850.40	18.62**
Gender	920.30	1	920.30	9.27*
Hardiness × Gender	210.15	1	210.15	2.11
Error	19350.80	196	98.73	
Total	22331.65	199		

Level of significance 0.01**, 0.05*

Table 5 presented the results of a two-way ANOVA examining the effects of psychological hardiness level and gender on mental health among college students. The findings revealed a significant main effect of psychological hardiness level on mental health ($F = 18.62, p < .01$). This indicated that students with higher levels of psychological hardiness showed significantly better mental health than those with lower hardiness. Hence, Hypothesis 4 was partially supported with respect to psychological hardiness level.

The table also showed a significant main effect of gender on mental health ($F = 9.27, p < .05$), suggesting that male and female college students differed significantly in their mental

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health levels. This result further supported Hypothesis 4, confirming that both psychological hardiness and gender independently influenced mental health.

However, the interaction effect between psychological hardiness level and gender on mental health was not significant ($F = 2.11, p > .05$). This indicated that the effect of psychological hardiness on mental health did not vary across gender. Therefore, Hypothesis 5, which stated that there would be significant interaction effect of psychological hardiness level and gender on mental health, was rejected.

Overall, these findings suggested that psychological hardiness and gender acted as independent factors in determining mental health, but their combined effect did not significantly influence mental health outcomes.

The present results were supported by previous research. Maddi and Kobasa (1984) reported that psychological hardiness had a strong independent effect on mental health, regardless of demographic variables such as gender. Similarly, Bartone (1999) found that hardiness significantly predicted mental health outcomes, while interaction effects with gender were not consistently significant, supporting the findings of the present study.

CONCLUSION

1. There is a significant positive relationship between psychological hardiness and mental health among college students
2. Male college students were found to have significantly higher psychological hardiness than female college students.
3. Male college students were found to have significantly better mental health than female college students.
4. Psychological hardiness level and gender were found to have significant main effects on the mental health of college students.
5. There was no significant interaction effect between psychological hardiness level and gender on the mental health of college students.

Educational and Psychological Implications

- Psychological hardiness training programs may be introduced in colleges.
- Gender-sensitive counselling services should be strengthened.
- Mental health promotion programs should focus on developing resilience and coping skills.

Limitations

- The study was limited to college students from a specific region.
- Self-report measures may be influenced by social desirability.

Suggestions for Future Research

- Replication with larger and more diverse samples.
- Longitudinal studies to examine changes in hardiness over time.

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Conflict of Interest

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