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# Hardiness and Coping as Predictors of Professional Life Stress Among Allied and Healthcare Professionals

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This study examined the relationship between psychological hardiness, coping styles, and professional life stress among 101 allied and healthcare professionals in India. Using validated tools—including the Brief-COPE, Professional Hardiness Questionnaire, and Professional Life Stress Scale—the research adopted a cross-sectional design and analyzed data through non- parametric tests and a Generalized Linear Model (GLM). Results revealed a significant negative correlation between hardiness and stress, and a similar trend with years of work experience. GLM findings confirmed that hardiness significantly predicted lower stress levels, while coping styles showed no significant predictive value. Stress and hardiness also varied across education, occupation, place of living, and marital status. These findings emphasize the role of psychological hardiness as a key resilience factor and call for integrated interventions that build individual hardiness while addressing systemic workplace stressors.

**Keywords**: Psychological hardiness, professional life stress, coping, allied healthcare, resilience

The healthcare profession is inherently demanding, exposing individuals to continuous stressors that challenge their psychological resilience. Among allied and healthcare professionals (AHPs), this resilience is largely influenced by two critical psychological constructs: psychological hardiness and coping strategies. Psychological hardiness, defined by commitment, control, and the ability to perceive challenges as opportunities for growth, serves as a key protective factor against stress (Kobasa, 1979; Harrisson et al., 2002). Complementing this, coping strategies—ranging from problem-solving to emotional regulation—determine how effectively professionals manage occupational stress (Silva-Junior et al., 2019).

AHPs form a diverse group including physical therapists, pharmacists, social workers, speech-language pathologists, and others who work outside the domains of medicine and nursing (Teo et al., 2021). These professionals are often subject to intense workloads, emotional strain from patient care, and systemic issues such as understaffing and workplace inequities (Rubin et al., 2021). Studies highlight that early-career professionals, especially those with less than five years of experience, report higher stress levels, suggesting the role of age and experience in stress vulnerability (Yang et al., 2015; Teo et al., 2021).

Stress has been conceptualized both physiologically and psychologically. Initially defined by Selye (1983) as the body's non-specific response to demands, later frameworks emphasized the cognitive appraisal processes involved in interpreting and responding to stress (Monat et al., 2007; Lazarus & Folkman, 1984). In occupational contexts, terms like work-related stress and professional life stress refer to environmental pressures affecting employee well-being (Hurrell et al., 1998).

Kobasa (1979) proposed that individuals high in hardiness display greater resilience to stress. This resilience stems from commitment to purpose, belief in control over outcomes, and viewing life changes as developmental challenges rather than threats. Maddi's (1967) work extended this view by contrasting the ideal identity—marked by active engagement and adaptability—with the premorbid identity, characterized by passive role acceptance and vulnerability to existential distress.

Psychological hardiness is particularly relevant to healthcare. Research demonstrates that higher levels of hardiness are linked to reduced psychological distress and lower burnout among AHPs (Zakeri et al., 2022; Harrisson et al., 2002). In high-stakes environments like hospitals, hardiness enables professionals to maintain performance and emotional stability despite ongoing stress. The existential framework underlying hardiness resonates with the daily realities of healthcare work, where meaning-making and proactive engagement often buffer against emotional fatigue (Lambert et al., 2003).

Selye's General Adaptation Syndrome (1976) describes the physiological progression of stress through stages of alarm, resistance, and exhaustion. However, it overlooks subjective interpretation and coping processes. Addressing this gap, Lazarus's cognitive theory of stress emphasizes appraisal—how one evaluates a situation's threat level and available coping resources (Kavanagh, 1986). Stress, in this view, is not merely reactive but shaped by perception and personal capacity to respond. Lazarus and Folkman (1984) further highlighted coping strategies as crucial mediators in stress outcomes, categorizing them as problem-focused or emotion-focused.

In healthcare settings, chronic stress leads to productivity loss, increased absenteeism, reduced job satisfaction, and high turnover. Lambert et al. (2003) identify cost factors including increased healthcare utilization, employee attrition, and decision fatigue. Early stress indicators such as withdrawal, scapegoating, and communication breakdowns can undermine care delivery and team functioning (Preston, 1996).

Strategies to reinforce hardiness are essential. Enhancing commitment involves finding meaning in work and engaging proactively with stressors. Strengthening control includes information-seeking and self-care practices. Embracing challenge fosters a mindset of growth, allowing professionals to view change as an opportunity (Lambert et al., 2003).

Coping, as defined by Folkman and Moskowitz (2004), refers to the deliberate thoughts and actions taken to manage stress. Coping is distinct from unconscious defense mechanisms and can be proactive or reactive (Coppens et al., 2010). The four main types include problem-focused, emotion-focused, meaning-focused, and social coping. Adaptive strategies are context-dependent

—problem-focused coping is most effective when stressors are controllable, while emotion-focused approaches are beneficial during unchangeable circumstances (Stoeber & Janssen, 2011).

Maladaptive coping strategies such as avoidance, disengagement, and emotional suppression are associated with worse outcomes, including burnout and mental health deterioration (Compas et al., 2017). On a neurological level, coping styles are influenced by serotonergic and dopaminergic activity in the brain, as well as neuropeptides like vasopressin and oxytocin, which affect social behavior and resilience (Coppens et al., 2010; Koolhaas et al., 2010).

Despite considerable research on stress and coping among physicians and nurses, the experiences of AHPs remain under-explored. These professionals face distinct stressors such as unclear role definitions, inconsistent schedules, and emotionally intense patient interactions (Teo et al.,2021). Furthermore, variations in stress levels based on demographic variables like age and experience necessitate targeted research and interventions (Yang et al., 2015).

Understanding the interplay between hardiness and coping is critical. Hardiness may serve as a moderating factor between workplace stressors and negative outcomes like burnout or compassion fatigue (Silva-Junior et al., 2019). Simultaneously, the effectiveness of coping strategies may amplify or reduce the protective influence of hardiness. For instance, a hardy individual employing problem-focused coping may navigate stress more successfully than one relying on avoidance.

In conclusion, investigating hardiness and coping as predictors of professional life stress among allied healthcare professionals is vital. As stress-related consequences threaten both worker well-being and patient outcomes, this research addresses an urgent need in the healthcare sector. Building psychological hardiness and promoting effective coping strategies can enhance workforce resilience, reduce burnout, and improve the quality of care. The present study seeks to fill the gap in literature by specifically focusing on these constructs within the AHP population, thereby informing organizational practices and mental health interventions designed for this essential workforce

### Objectives

1. To establish correlation between psychological hardiness and coping with professional life stress among allied health care professionals.
2. To study the impact of psychological hardiness and coping on professional life stress among allied health care professionals.

### Hypotheses

H1 There exists no relationship between psychological hardiness and coping with professional life stress among allied health care professionals.

H2 Psychological hardiness and coping has no impact on professional life stress among allied health care professionals.

H3 Hardiness and coping would be correlated to professional life stress among allied health care professionals.

H4 Hardiness and coping would have significant impact on professional life stress among allied health care professionals.

## Method

### Sample

Purposive sampling was employed to select 100 allied healthcare professionals from various hospitals and private clinics in Chennai. Participants included physiotherapists, nutritionists, optometrists, occupational therapists, psychologists, social workers, and radiology technologists. Inclusion required at least one year of active clinical experience.

### Tools/Measures

*Brief COPE Inventory:* Coping strategies were assessed using the Brief COPE (Carver, 1997), a 28-item tool with 14 two-item subscales rated on a 4-point Likert scale (0–3). It measures both adaptive and maladaptive coping (e.g., Active Coping, Planning, Substance Use). Internal consistency ranged from $\alpha = .50$ to .90, with most subscales exceeding .60, supporting its reliability and construct validity in applied settings.

*Professional Hardiness Questionnaire (PHQ):* The 24-item PHQ (Kokun, 2021) evaluates eight dimensions of professional hardiness, including commitment, control, challenge, and emotional, motivational, social, and professional factors. Scores were classified into five normative levels. The scale showed strong reliability (α = .76–.90) and significant correlations with related constructs (r = .17–.45, p < .001), indicating good validity.

*Professional Life Stress Scale (PLSS):* The PLSS (Fontana, 1989) is a 24-item self-report measure assessing occupational stress. It includes yes/no, multiple-choice, self-evaluative items, and one 22-part item on life events. The scale demonstrated acceptable reliability (α = .74; Fontana & Abouserie, 1993).

All instruments used in this study were open access and utilized in accordance with their publicly available terms of use. No additional permissions were required.

## Procedure

After obtaining institutional permissions, professionals were briefed about the study and gave written informed consent. Participants completed the demographic sheet and standardized questionnaires under supervision, ensuring privacy and clarity.

## Results

The results of this study are based on analyses conducted using STATA 17.0. The primary aim was to examine the relationship between psychological hardiness, coping styles, and professional life stress among allied healthcare professionals. Given the non-normal distribution of the key variables, non-parametric methods were employed. The statistical techniques included descriptive statistics, Spearman's rank-order correlation, Kruskal-Wallis tests, and a Generalized Linear Model (GLM) with Poisson distribution.

### Normality Assessment

Table 1. Shapiro-Wilk Test of Normality (n=101)

| Variable | W | z | p-value | Interpretation |
|---|---|---|---|---|
| Age | 0.8525 | 5.566 | < .001 | Not normally distributed |
| Years of Work | 0.6519 | 7.473 | < .001 | Not normally distributed |
| Professional Stress | 0.9547 | 2.949 | 0.0016 | Not normally distributed |
| Psychological Hardiness | 0.9612 | 2.603 | 0.0046 | Not normally distributed |

Shapiro-Wilk tests were conducted on the continuous variables (age, work experience, professional life stress, and psychological hardiness). All variables significantly deviated from normality (p < .05), warranting the use of non-parametric methods.

Descriptive analyses revealed a mean age of 32.63 years (SD = 10.49), with the majority of participants under 30. Work experience ranged from 1 to 38 years (M = 5.72, SD = 7.54), with 85% having 10 or fewer years of experience. Gender distribution was skewed toward females (84.2%). Regarding education, 45.5% were postgraduates. Only 36.6% of the sample reported holding a professional license.

Professional life stress scores (M = 11.91, SD = 6.17) suggested low to moderate stress. Hardiness scores averaged 62.58 (SD = 9.46). Coping scores indicated a modest preference for problem-focused coping.

Table 2. Spearman's Rank-Order Correlation

| Variable | | Stress | Hardiness | Years of Work |
|---|---|---|---|---|
| Stress | Spearman's ρ | - | -0.415 | -0.315 |
| | *p*-value | - | < .001 | 0.001 |
| Hardiness | Spearman's ρ | -0.415 | - | 0.032 |
| | *p*-value | < .001 | - | 0.750 |
| Years of Work | Spearman's ρ | -0.315 | 0.032 | - |
| | *p*-value | 0.001 | 0.750 | - |

Spearman's correlation showed a moderate negative relationship between psychological hardiness and professional life stress (ρ = ".415, p < .001). Years of work experience was also negatively correlated with stress (ρ = ".315, p = .001), suggesting that more experienced professionals reported lower stress. No significant associations were found between age and hardiness or between hardiness and work experience.

Kruskal-Wallis H tests were used to identify group-level differences in professional life stress and hardiness. Coping style did not significantly differ by stress levels (p = .559), nor did gender (p = .327). However, significant differences in stress were observed across education (p =.010), occupation (p = .040), place of living (p < .001), and marital status (p = .001).

Regarding hardiness, significant variation was observed across coping styles (p = .010), occupations (p = .007), and place of living (p = .041). Education approached significance (p =.061). No significant differences in hardiness were found across gender or marital status.

Table 3. Generalized Linear Model (GLM)

| Predictor | B (β) | SE | z | p-value | 95% CI (Lower, Upper) |
|---|---|---|---|---|---|
| Coping Style (2) | -0.055 | 0.063 | -0.88 | 0.379 | [-0.178, 0.067] |
| Coping Style (3) | 0.197 | 0.132 | 1.49 | 0.136 | [-0.062, 0.455] |
| Hardiness | -0.023 | 0.003 | -6.63 | .000*** | [-0.029, -0.016] |
| Intercept | 3.848 | 0.199 | 19.33 | .000*** | [3.458, 4.238] |

***p < .001

A Generalized Linear Model (GLM) using Poisson regression was employed to assess the predictive power of psychological hardiness and coping styles on professional life stress.

Psychological hardiness emerged as a significant negative predictor (β = "0.023, p < .001), indicating that higher hardiness was associated with lower stress. Coping styles, included as categorical variables, did not significantly predict stress.

Model fit indices (AIC = 6.93, BIC = "177.68) and lack of overdispersion supported the appropriateness of the model. These findings suggest that while psychological hardiness plays a significant role in stress reduction, coping styles may not independently predict stress levels when hardiness is accounted for.

## Discussion

The present study examined the relationship between psychological hardiness, coping strategies, and professional life stress among allied and healthcare professionals. The findings revealed that psychological hardiness is significantly and negatively correlated with professional life stress, indicating that individuals with higher levels of hardiness are likely to experience reduced stress. This supports Kobasa's (1979) conceptualization of hardiness as a trait that buffers against the adverse effects of occupational challenges by fostering commitment, control, and a perception of stressors as growth opportunities.

Spearman's correlation coefficient revealed a moderate negative association ($\rho = -0.415$, $p < .001$) between hardiness and stress, reinforcing earlier studies that identified hardiness as a protective factor (Silva-Junior et al., 2019; Harrisson et al., 2002). This correlation suggests that professionals with stronger internal resilience resources are more capable of navigating complex healthcare environments without succumbing to stress.

Years of professional experience also showed a significant inverse correlation with stress ($\rho = -0.315$, $p = .001$), suggesting that greater familiarity with clinical settings and accumulated coping knowledge may contribute to lower perceived stress. This finding is consistent with previous literature indicating that tenure fosters adaptive skills and psychological resilience (Teo et al., 2021; Yang et al., 2015).

However, no significant associations were found between psychological hardiness and age or years of experience, further emphasizing the trait-like stability of hardiness, independent of demographic or experiential factors. These results align with Kobasa's (1979) view that hardiness is a relatively enduring personality characteristic rather than a skill that develops solely with age or time in the field.

The Generalized Linear Model analysis further substantiated these findings, revealing that psychological hardiness was a significant negative predictor of professional life stress ($\beta = -0.023$, $p < .001$). For each unit increase in hardiness, stress levels decreased by approximately 2.3%.

This predictive relationship confirms hardiness as a foundational element in managing occupational stress, which echoes the results of similar empirical studies (Zakeri et al., 2022).

Coping strategies, although theoretically important in stress literature (Folkman & Moskowitz, 2004), did not significantly predict professional life stress when hardiness was controlled for in the model. While problem-focused coping indicated a non-significant trend toward reducing stress, and avoidant coping showed a non-significant increase in stress, these findings suggest that coping styles may play a secondary or context-dependent role, especially when more stable traits like hardiness are accounted for.

Kruskal-Wallis tests revealed significant differences in stress levels based on demographic and occupational variables. Higher stress was reported among professionals with lower education, certain occupational groups (e.g., physiotherapists), those residing in non-urban areas, and individuals who were single or divorced. These findings are consistent with previous research showing that contextual and systemic factors such as work environment, access to resources, and social support play crucial roles in shaping stress experiences (Lambert et al., 2003; Mahoney, 2024).

Interestingly, neither gender nor coping style significantly influenced stress levels in this sample. This challenges traditional

models that emphasize coping strategies as central determinants of stress outcomes, instead highlighting the importance of environmental and structural variables.

Psychological hardiness scores also varied significantly across coping styles, occupations, and place of living. Professionals who used problem-focused coping and those living in urban areas exhibited higher levels of hardiness. This reinforces the view that while hardiness may be a stable trait, its expression can be modulated by environmental affordances and professional experiences (Maddi, 1967).

## Conclusion

This study provides robust evidence that psychological hardiness plays a central role in reducing professional life stress among allied and healthcare professionals. The consistent significance of hardiness across correlational and predictive analyses underlines its value as a core resilience trait. In contrast, coping styles showed limited predictive power, suggesting their influence may be moderated by other psychological or contextual factors.

These findings underscore the importance of promoting psychological hardiness through professional training, organizational support, and targeted interventions. Institutions should consider developing resilience-building programs that focus not only on coping strategies but also on enhancing core hardiness traits like commitment, control, and challenge.

Limitations of the study include its cross-sectional design, which restricts causal interpretations, and a sample skewed toward early-career female professionals, potentially limiting generalizability. Moreover, reliance on self-reported data introduces the possibility of response biases. Future research should adopt longitudinal and mixed-method designs to explore how hardiness and coping evolve over time and interact with broader systemic and personal variables.

Overall, this study contributes to the growing body of evidence that highlights the significance of psychological hardiness in healthcare settings. It suggests that fostering inner resilience may be more effective in stress management than focusing exclusively on coping behaviors, especially within demanding professional contexts.

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