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Original scientific paper

Psychological Capital and Empathy Among Nurses in Psychiatric Care

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Abstract

Introduction. Psychological capital is a construct within positive psychology that includes hope, self-efficacy, resilience, and optimism. Empathy is a complex neurobiological, psychological, and social phenomenon. In nursing, empathy is viewed as a multidimensional, dynamic process that is co-created between nurse and patient, dependent on a trusting therapeutic relationship and directed toward the other while remaining self-aware.

Aim. The aim of the research was to examine the empathy and psychological capital of nurses and the relationship between empathy and psychological capital with length of service in the field of psychiatry and completed psychotherapy education.

Methods. A quantitative, nonexperimental study was conducted at the Psychiatric Clinic Sveti Ivan in Zagreb, Croatia. The shortened psychological capital questionnaire (PCQ 12), the Jefferson Scale of Empathy for Healthcare Professionals (JSE-HP), and the sociodemographic questionnaire were used to conduct the assessment among a sample of 67 psychiatric nurses.

Results. The study participants achieved a high level of psychological capital on average (M = 4.80, SD = 0.57) and moderate levels of empathy with relatively higher variability (M = 102.36, SD = 17.14). No statistically significant associations were identified between either psychological capital or empathy and years of psychiatric work experience or psychotherapy education.

Conclusion. The study found that psychiatric nurses demonstrated generally high levels of psychological capital and moderate levels of empathy. No statistically significant associations were identified between these results and either length of work experience in psychiatry or completed psychotherapy education. Future research should explore additional personal and professional variables that may relate to psychological capital and empathy in this population.

Introduction

Organizations operate in environments characterized by constant change, making human capital a critical determinant of their success. In healthcare, human capital is embodied primarily in the knowledge, skills, and experience of healthcare professionals. The National Strategy of the Croatian Healthcare System 2020-2030 identifies improving population health and increasing the quality and accessibility of care as key priorities, both of which depend heavily on the competencies of the nursing workforce (1). Nurses represent the largest professional group in Croatia, comprising 32,765 individuals and 42.6% of all healthcare employees (2). Given this central role, strategic investment in nurses is essential at institutional and policy levels. Understanding the psychological capacities that enable nurses to function effectively—such as psychological capital and empathy—is therefore crucial for workforce planning, staff retention, and sustainable human resource development.

Positive psychology focuses on developing psychological resources that enable individuals and organizations to function effectively (3). Within workplace settings, this approach is reflected in Positive Organizational Behaviour (POB), which emphasizes human strengths that can be measured, developed, and managed to enhance performance and well-being (4). POB identifies four core psychological capacities—hope, self-efficacy, resilience, and optimism—collectively termed psychological capital or HERO (4). Hope is defined as a positive motivational state based on an interactively derived sense of successful agency and pathways (5), self-efficacy reflects an individual's confidence in mobilizing motivation, cognitive resources and actions (6), resilience denotes the capacity to recover from challenges (7), and optimism represents a positive attributional style (8). Psychological capital is conceptualized as a state-like and malleable resource, shaped by contextual and experiential factors and capable of increasing through professional development and targeted training (4).

Empathy is a multifaceted construct whose diverse definitions across philosophy, psychology, and neuroscience contribute to considerable conceptual complexity (9). Within nursing practice, empathy is understood as a multidimensional, dynamic, and relational concept composed of four interrelated elements: (a) a co-creative practice involving both the empathizer and the empathee, (b) an experience that is fundamentally other-directed while maintaining connection with oneself, (c) a bi-directional, interactive interpersonal process requiring continuous attunement and responsivity, and (d) a relational quality that flourishes under conditions of openness, relatability, and trust (10).

Empathic medical care is associated with numerous benefits, including fewer medical errors and malpractice claims, and higher retention of healthcare professionals (11). By using empathic skills, nurses obtain information about patients' subjective health experiences, enabling them to tailor care to individual needs, establish a constructive therapeutic relationship, foster trust, and provide effective support in the recovery process (12, 13).

The existing literature shows mixed results on whether empathy increases or decreases over time in the health professions trajectory (14, 15). Higher levels of empathy among healthcare workers have been found to be associated with higher educational levels, female gender, older age, and more years of work experience in the mental health field (16-19). However, healthcare workers' empathy towards patients decreases when confronted with violent and antisocial behaviour (20). Current systematic reviews indicate that both psychotherapy training and other empathy-enhancing interventions can strengthen and sustain empathic behaviour, but further research is needed to identify which approaches produce durable changes (21-23). Specifically, group analysis education fosters altruism, empathy, cooperation and reflective functioning within therapeutic communities, contributing to positive professional and organizational change (24). Through experiential group learning, trainees develop their therapeutic role, strengthen professional identity, and refine their emotional and relational responses toward themselves, colleagues and patients (24, 25).

Because psychiatric nursing relies heavily on interpersonal attunement and emotional labour, empathy is a foundational competence in this specialty. In light of the relational nature of psychiatric nursing and the unclear effects of psychotherapy training on psychological capital and empathy, we hypothesized that (1) nurses with more years of psychiatric experience would have higher psychological capital and empathy, and (2) nurses who completed psychotherapy education would score higher on both constructs.

Aim

The aim of the research was to examine the empathy and psychological capital of nurses and the relationship between empathy and psychological capital with length of service in the field of psychiatry and completed psychotherapy education.

Methods

Participants

The study sample consisted of nurses employed at the Psychiatric Clinic who voluntarily took part in the study, which was conducted between June 5 and July 7, 2023. In total, 67 nurses participated (N = 67; N_male = 20, N_female = 47), with a mean age of approximately 39 years (M = 38.78, SD = 11.41). Data on education level was missing for one participant. Among the remaining participants, the largest group had completed secondary education (N = 30), followed by higher vocational education (N = 22) and university-level education (N = 14). At that time, the Clinic employed 189 nurses in total, meaning that the participants in this study represent 35% of the nursing workforce.

Instruments

Psychological Capital Questionnaire (PCQ-12)

Psychological capital was measured using the 12-item Psychological Capital Questionnaire (PCQ-12), developed by Luthans et al. (2007) (26). The scale consists of four subscales: self-efficacy (3 items), hope (4 items), resilience (3 items), and optimism (2 items). Each item is rated on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). Subscale scores are calculated as the mean of all items within each domain, and the total psychological capital score is obtained as the mean of all 12 items, with higher scores indicating higher psychological capital. The Croatian version of the PCQ-12, used with permission of the validators, has demonstrated solid psychometric properties. Murgić et al. (2018) confirmed the expected four-factor structure and reported satisfactory construct validity and internal consistency in a Croatian sample (Cronbach's α: self-efficacy = .77, hope = .73, resilience = .68, optimism = .63, total PsyCap = .87) (27). In the present study, Cronbach's alpha for the total scale was .82, and reliability coefficients for the subscales were .83 for self-efficacy, .78 for hope, .79 for resilience, and .66 for optimism, indicating acceptable internal consistency.

Jefferson Scale of Empathy – Health Professionals Version (JSE-HP)

Empathy was measured using the 20-item Jefferson Scale of Empathy – Health Professionals version (JSE-HP) by Hojat et al. (2002) (28). Items are rated on a 7-point Likert scale. After reverse-scoring negatively worded items, all responses are summed to yield a total score ranging from 20 to 140, with higher values indicating greater empathy. Previous research reports internal consistency between α = .78 and .89 (28). The Cronbach's alpha reliability coefficient for the empathy scale obtained in this study was .88, indicating good internal consistency reliability. The Croatian translation by Batrnek and Gašpert was used with permission of the coordinator at Thomas Jefferson University (29).

Sociodemographic Questionnaire

A brief sociodemographic questionnaire collected data on age, sex, education level, total years of work experience, years of psychiatric work experience, and completed psychotherapy education.

Procedure

Participants were recruited through an internal announcement issued by the Nursing Department. Data were collected using paper-and-pencil questionnaires. Participation was voluntary and anonymous; written informed consent was obtained before completion. Questionnaires were returned in sealed envelopes. Ethical approval was granted by the Ethics Committee of the Psychiatric Clinic Sveti Ivan (01-1878/23-2), and procedures adhered to the Declaration of Helsinki.

Statistics

Using the Shapiro-Wilk test to assess normality, a statistically significant deviation from normal distribution was identified for all examined variables except the empathy scale (see Table 1). However, the

skewness and kurtosis coefficients for all variables fell within the range of -1 to +1 (see Table 1), indicating that the use of parametric statistical procedures should not be restricted (30). Descriptive statistics (frequencies, means, and standard deviations) were used to summarize the data. Pearson's correlation coefficient and the point-biserial correlation coefficient were used to test associations between the variables. The use of correlations—including the point-biserial coefficient for dichotomous variables—was selected because the primary aim of the study was to examine relationships between variables, specifically the presence, strength, and direction of these associations within a correlational research design. Although a t-test would yield the same p-value mathematically, the correlational approach was conceptually more appropriate for addressing the research questions. A significance level of 5% was applied when evaluating statistical results. The proportion of missing data for all items of the psychological capital and empathy scales was below 5%; following the scoring guidelines, missing responses were replaced with the participant's mean score on the remaining items of the corresponding scale, in line with the recommended scoring procedures. Data analysis was conducted using IBM SPSS Statistics 20.

Results

Descriptive statistics were calculated for all main variables (Table 1).

The average total number of years of work experience among participants was approximately 18 years (M = 18.34, SD = 11.63), while the average number of years of work experience in the field of psychiatry was about 15 years (M = 14.96, SD = 11.15). Both variables showed very high variability, which is consistent with the observed range of work experience: from one to 45 years in total work experience, and from less than one year to 41 years in psychiatric work experience. Most participants had not completed any form of psychotherapy training (N = 42). All participants who had received psychotherapy education completed training in the psychotherapeutic modality of group analysis (N = 25).

Participants, on average, demonstrated high levels of psychological capital (M = 4.80, SD = 0.57) and moderate empathy, with somewhat greater variability (M = 102.36, SD = 17.14).

To test the first and second hypotheses—whether nurses with more years of psychiatric work experience would show higher psychological capital and empathy—Pearson's correlation coefficient was used. The analysis revealed no statistically significant as-

Table 1. **Descriptive parameters of age, total years of work experience, years of psychiatric work experience, psychological capital and its subscales, and participants' empathy (N = 67)**

	W	*p*	Skewness coefficient	Kurtosis coefficient	*M*	*SD*
Age	.94**	.004	0.57	-0.52	38.78	11.41
Total years of work experience	.95**	.006	0.55	-0.48	18.34	11.63
Years of psychiatric work experience	.91**	<.001	0.88	-0.05	14.96	11.15
Psychological capital	.94**	.004	-0.73	0.09	4.80	0.57
Self-efficacy	.92**	<.001	-0.71	0.12	4.81	0.82
Hope	.96*	.033	-0.43	-0.29	4.81	0.74
Resilience	.95*	.012	-0.38	-0.25	4.96	0.70
Optimism	.92**	<.001	-0.89	0.74	4.55	1.08
Empathy	.98	.460	-0.25	-0.12	102.36	17.14

Legend: W – Shapiro-Wilk test, * $p < .05$, ** $p < .01$, M – mean, SD – standard deviation

sociations between years of psychiatric work experience and psychological capital (r = .23, *p* = .063), nor between years of psychiatric work experience and empathy (r = .15, *p* = .226).

To test the third and fourth hypotheses—whether nurses who had completed psychotherapy education would score higher on psychological capital and empathy—the point-biserial correlation coefficient was applied. The results showed no statistically significant associations between psychotherapy education and psychological capital (rpb = -.21, *p* = .087), nor between psychotherapy education and empathy (rpb = -.18, *p* = .138).

Discussion

In our sample, the mean psychological capital score was 4.80 (SD = 0.57), higher than the meta-analytic average for nurses (4.2) (31), though that meta-analysis did not include European samples. Our result was comparable to Italian data for teachers and healthcare professionals (4.6) (32). In Croatia, psychological capital across professions ranges from 3.8 among hospitality workers (33) to 4.85 among teachers and preschool educators (34,35), with healthcare professionals showing similar levels (4.72) (36). These comparisons suggest that care-and education-oriented professions, including nursing, tend to show higher psychological capital, which is consistent with our findings.

Although our hypothesis that nurses with more years of psychiatric experience would show higher overall psychological capital was not supported, one noteworthy exception emerged: years of psychiatric experience were significantly associated with higher levels of optimism, although the correlation was small. This partly aligns with studies reporting higher PsyCap among psychiatric nurses with longer service (37-40), but the weak effect in our sample suggests that only specific components of PsyCap—not the construct as a whole—may be sensitive to accumulated clinical experience. Given that psychological capital is considered a state-like, developable resource, it is plausible that workplace conditions, professional role, and organizational stability may influence PsyCap trajectories more strongly than tenure alone.

A similar pattern was observed for psychotherapy education. Overall PsyCap did not differ significantly between nurses with and without psychotherapy training, a small but significant correlation emerged for the self-efficacy subscale, indicating that nurses who completed psychotherapy education reported slightly higher self-efficacy. To our knowledge, no previous studies have examined whether psychotherapy education increases PsyCap among nurses or other healthcare professionals. Given that psychotherapy training includes processes theoretically aligned with PsyCap development, our hypothesis in this area remained exploratory rather than empirically grounded.

Table 2. **Correlation matrix with intercorrelations of the examined variables (N = 67)**

		1	2	3	4	5	6	7	8	9	10
1	Age	-									
2	Total yrs exp.	.99**	-								
3	Psych. exp.	.90**	.89**	-							
4	Education	-.49**	-.51**	-.47**	-						
5	PsyCap	.29*	.32**	.23	-.21	-					
6	Self-efficacy	.22	.25*	.21	-.29*	.72**	-				
7	Hope	.16	.18	.09	-.07	.84**	.50**	-			
8	Resilience	.18	.19	.10	-.06	.56**	.28*	.23	-		
9	Optimism	.26*	.29*	.25*	-.18	.65**	.19	.50**	.15	-	
10	Empathy	.16	.15	.15	-.18	.32**	.16	.31*	.08	.33**	-

Legend: Overall experience – total years of work experience; Psychiatric experience – years of work experience in psychiatry; Education – completed psychotherapy training (1 = Yes, 2 = No); *$p < .05$, **$p < .01$

In our sample, the average empathy score measured by the JSE-HP was 102.36 (SD = 17.14), indicating a moderate level of empathy. This score is lower than those typically reported in JSPE results among physicians and nurses, where averages range from 110 to 113 (41), and lower than the median of 121 (IQR 111–128) reported among Croatian nurses (42).

Research examining the association between work experience and empathy in nursing is mixed. Some studies report that empathy increases with professional experience, including findings among oncology nurses and among mental health nurses with both general and specialized experience (43,44). In contrast, other studies have found no association (45), while several report decreases in empathy over time, particularly among nurses who remain on the same unit and may experience cumulative emotional strain (46). Beyond experience itself, contextual and organizational factors also influence empathy levels. For example, mental health staff in France reported generally high empathy scores, with slightly lower values among psychiatric nurses (20). Ghaedi et al. (47) similarly showed that high workload and stress reduce empathic capacity across clinical settings, although psychiatric nurses tended to exhibit higher empathy compared with nurses in intensive care or emergency departments. Together, these findings suggest that empathy is shaped by a combination of experience, work environment, and emotional demands rather than by tenure alone. Studies examining the perceived importance of psychotherapists' empathy consistently show that clients' subjective experience of being understood strongly predicts long-term therapeutic success (48–50). It is important to highlight that nurses reporting higher compassion fatigue also report higher burnout, and empathic engagement appears to play a significant mediating role in this relationship, effectively amplifying the impact of compassion fatigue on burnout (51, 52). Collectively, the literature indicates that empathy is not a linear function of tenure but a dynamic construct influenced by interpersonal stressors, organizational climate, workload, and emotional demands. Taken together, these findings help explain why our hypothesis—that empathy would be higher among nurses with more years of psychiatric experience and among those with psychotherapy education—was not supported.

Broader factors may also have influenced our results, particularly given the heterogeneity of our sample: we did not distinguish between nurses actively engaged in psychotherapeutic work and those who had completed psychotherapy training but were not practicing, and many nurses' psychotherapeutic skills may be overshadowed by task-focused clinical duties. Another limitation is that empathy and psychological capital may be constrained by organizational conditions, such as staffing ratios, patient acuity, or burnout levels, which were not measured. The relatively small sample size further reduces statistical power and may have limited our ability to detect meaningful associations. The single-site design also restricts the interpretability and generalizability of the findings. In this context, the absence of significant associations in our study likely reflects the complex interplay of systemic and methodological factors rather than the absence of meaningful relationships in principle.

Conclusion

This study examined whether psychological capital and empathy among psychiatric nurses were associated with years of psychiatric work experience and psychotherapy education. Psychological capital was generally high and empathy moderate, but neither showed statistically significant associations with the examined variables. Empathy appears to be a dynamic, context-sensitive construct rather than a linear outcome of tenure. Further research in broader settings is needed to clarify which individual and organizational factors contribute to these capacities in psychiatric nursing.

Author contributions

Conceptualization and methodology (MSK, MG); data curation and formal analysis (MSK, MG); investigation and project administration (MSK); and writing – original draft and review & editing (MSK, MG). All authors have approved the final manuscript.

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Conflict of Interest Statement

The authors declare no conflict of interest.

Declaration of Generative AI in Writing

During preparation, the authors used ChatGPT 5.1 for language enhancement.

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