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Original Article

The Optimism Effect: How Core Self-Evaluation Shapes Well-Being in Punjab's Nursing Students

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Abstract

Background: The current study investigates the intricate relationship between dispositional optimism, core self-evaluation, and mental well-being among nursing students. The present research aims to understand the mediating role of core self-evaluation on nursing students' well-being and dispositional optimism.

Methods: The present study was cross-sectional in nature and included a purposively selected sample of 286 (112 females, 172 males) nursing students from Punjab (India). Students completed a measure of a short version of the Warwick–Edinburgh Mental Well-being Scale, The Revised Life Orientation Test (LOT-R), and the Core Self-evaluations Scale. The collected data was analyzed using correlational and multiple regression analysis. Moreover, the mediational analysis was analyzed using the Hayes PROCESS macro.

Results: The results indicated that core self-evaluation (β=0.606, $p<0.01$) and dispositional optimism (β=0.394, $p<0.01$) are significant predictors of nursing students' mental well-being. Mediation analysis showed that core self-evaluation completely mediated the relationship between dispositional optimism and mental well-being. Furthermore, it was found that the measures of t-value of dispositional optimism (t=-1.536), and mental well-being (t=-1.594) were non-significant at the 0.05 level, while significant differences were found in core self-evaluation (t=-2.223).

Conclusion: The results of the present study demonstrated the predictive role of dispositional optimism and core self-evaluation in the mental well-being of nursing students. Moreover, the current study highlighted the underlying mechanism through which dispositional optimism influences nursing students' mental well-being.

Keywords: Cross-sectional studies, Diagnostic self evaluation, Female, Male, Mediation analysis, Nursing, Regression analysis, Students

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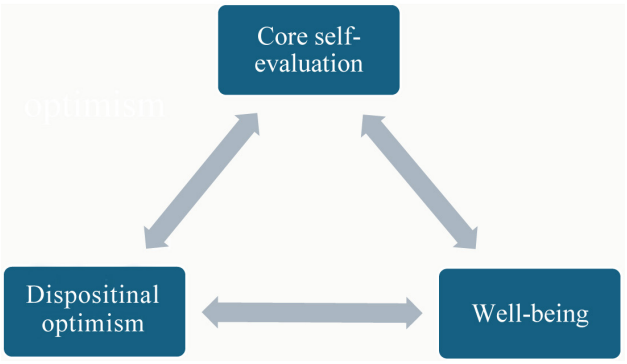
Introduction

University provides a range of potentially challenging transitions, which are defined as times of change that need to be managed (1). These transitions start even before students start going to college, they go through several transitions such as acclimating to yearly shifts graduating from high school, and starting a postgraduate program or the workforce. Students' identity and integration within university life should be understood throughout (2). Psychological distress is more common among nursing students both during their medical education and after they start working (3). Past research studies have indicated that nursing students have greater rates of depression symptomatology than their age-matched peer students (4). Additionally, their stress levels are noticeably higher than those of age-matched non-nursing students (5). In the course of their studies, nursing students deal with a variety of difficulties and stressful situations (6-8). Psychological difficulties can arise during transitions, potentially having a substantial effect on the mental well-being of students. Studies have found that female medical students are more distressed than male students (9). However, some research has found no variations in medical students' discomfort according to gender (10). Past research studies have reported that nursing students are prone to anxiety, depression, academic stress, performance pressure, heavy workload, time constraints, suicidal ideations, and higher levels of psychological distress (7,11-13). However, past research had provided strong evidence for the association between university challenges and mental health (14,15). Recent research has indicated that individual differences play an important role in coping with university challenges (16). Studies have reported that adverse consequences of university challenges may not be uniform among students as many students grow and thrive in challenging situations (16-18). One of the factors that is found to play an important role in helping students deal with challenges is optimism. Students who carry an optimistic attitude towards their future show resilient behaviour to resolve those challenges and have a positive outlook on daily happenings. Several research on this perspective have shown positive links between optimism and mental and physical health. According to Rand *et al* (19), optimistic individuals are more likely to use more efficient coping strategies, exhibit protective attitudes, and be more resilient to stress. Optimism is simply described as an expectation of positive events to take place in the future (20). It is a "widespread conviction or expectation that good or favourable things will occur in the future" (21). Optimism is broadly classified into two important conceptualizations: dispositional optimism, which refers to the general outlook toward the future (22), and explanatory optimism, which refers to how we explain events and outcomes (23). People with dispositional optimism show generalized positive expectations regarding the future and these expectations remain consistent throughout different situations (24). Individual optimism, according to Blasco-Belled *et al* (25), has a substantial negative link with depression but a significant positive correlation with life satisfaction. The advantages of optimism could be associated with an increased chance of developing habits and coping strategies that promote better psychological adjustment and health (26,27). Research studies have revealed that optimism and psychological well-being are closely associated. The more an individual is optimistic, the greater well-being he possesses. Similarly, Supervía *et al* (28) proposed that there is a strong connection between optimism and both psychological and physical wellbeing. The concept of well-being is defined in terms of hedonic and eudemonic perspectives (29). Hedonism focuses on the pursuit of pleasure and the avoidance of pain highlighting the subjective experiences of satisfaction. In contrast, eudemonia well-being focuses on a meaningful and fulfilling life. According to Ryff (30), "it consists of six crucial elements of psychological well-being that promote self-realization: self-acceptance, wholesome interpersonal connections, autonomy, environmental mastery, life purpose, and personal development". In the last few years, researchers have combined these two methods to create a concept known as mental well-being (31). A psychological concept that includes effect and psychological functioning is called "mental well-being" (32). Saleem *et al* (33) propose that mental well-being is a combination of both techniques and is better suitable, since well-being is a complex phenomenon with both hedonic and eudemonic components. Consequently, well-being

is operationalized in the current study as a synthesis of hedonic and eudemonic perspectives. Research studies have indicated strong research support for the relationship between dispositional optimism and different components of mental well-being such as self-esteem (34), quality of life (35), happiness (36), greater resilience (37), and flexibility in managing emotions (38). The present study suggested that dispositional optimism may also influence the development of a positive Core Self-Evaluation (CSE) among nursing students. CSE includes four connected personality traits: self-esteem, general self-efficacy, locus of control, and neuroticism. CSE is defined as an individual's fundamental assessment and judgment of one's own competence and worth, which is a relatively consistent personality attribute (39). People who identify themselves as having the capacity to direct their own lives frequently have high CSE (40), and they also tend to feel less frustrated in the face of unfavourable circumstances (41). Edith Packer (42) introduced the concept of core evaluations, arguing that these assessments are basic, subconscious processes of the psyche that exist in every person. Building on this idea, it was initially suggested the use of CSE, a higher-order integrative concept, in the prediction of job satisfaction. According to Judge *et al* (43), CSE stands for the core beliefs that people have about their own competence and self-worth in their surroundings. Individuals with high CSE typically have a positive outlook on life and themselves, have confidence in their abilities to complete activities and jobs, and approach circumstances with assurance. On the other hand, individuals who have low core self-esteem are more likely to experience low amounts of both positive and negative emotions, which will lower their degree of life satisfaction (44). CSE has gained recognition recently as a crucial factor in determining an individual's well-being. Research has indicated that various aspects of well-being, including life satisfaction (45,46), happiness (47), psychological health (48), and emotional expression (49), are correlated with core self-evaluations. According to research, those with higher CSE are more likely to keep good feelings and thoughts, as well as respond positively to their environment. They exhibit competence, worthiness, and efficacy in various contexts, resulting in increased subjective well-being (49,50). The latest study also examined how dispositional mindfulness and well-being are mediated by CSE (33). Studies investigated the effect of dispositional optimism on quality of life and verified the mediating role of CSE (51).

Although dispositional optimism and well-being have been studied in the past, there is a significant study gap regarding the mediation role of CSE in this relationship. CSE plays a very important role in the fundamental perceptions of individuals' own worth and capabilities, and it has been identified as a crucial factor influencing overall well-being. However, its specific mediating effect on the relationship between dispositional optimism and different components of well-being remains largely unexplored, particularly within the context of nursing education. Investigating the mediating role of CSE in this relationship could offer valuable insights into the underlying mechanisms through which dispositional optimism influences well-being among nursing students. By elucidating the pathways through which these constructs interact, this research could provide a more comprehensive understanding of the factors contributing to the well-being of nursing students. Furthermore, the majority of prior research has failed to investigate the mean differences between male and female participants when considering the mediation role of CSE in the association between nursing students' dispositional optimism and well-being. By investigating the potential gender differences in the relationships between dispositional optimism, CSE, and several aspects of well-being, this study attempted to fill this research gap.

Proposed model:



Materials and Methods

Participants and procedure

The present study included nursing students from

Punjab (India), with a mean age of the sample M= 23.3 years. A total of 286 students (114 females, 172 males) were purposively selected. Inclusion criteria include being currently enrolled as a full-time undergraduate nursing student and willingness to participate in the research. The exclusion criteria encompassed participants with any form of physical or mental condition that could potentially impact the study outcomes. The study was conducted between October 2023 to April 2024. The purpose of the study was explained to the participants, and permission was sought before any data was collected. The questionnaire was conducted in English language only and it took 15 to 20 *min* to complete and was self-administered by each individual on the university campuses. For more demographic information (Table 1).

Measures

Warwick-edinburgh mental well-being scale (WEMWBS): The Warwick–Edinburgh Mental Well-being Scale was used to measure mental health (52). On a five-point Likert scale, with 1 denoting never and 5 denoting always, the participants answered items like "I have been feeling relaxed and I have been coping with issues nicely". There are seven items in total. Cronbach's alpha in the current investigation was determined to be 0.813.

Revised life orientation test (LOT-R)

The Revised Life Orientation Test (LOT-R) (53) was utilized to measure dispositional optimism. It consists of 10 items, and the participants responded to the items such as "If something can go wrong for me, it will", and "In uncertain times, I usually expect the best". On a 5-point rating scale ranging from (0 being highly disagreed, and 4 being strongly agreed). Cronbach's alpha in the present study was found to be 0.823.

Table 1. Bio-Characteristics

Characteristics		B.Sc. (nursing)	
		Frequency	Percent
Gender	Male	172	60.1
	Female	114	39.9
Year in college	First year	113	39.5
	Second year	57	19.9
	Third year	72	25.2
	Fourth year	44	15.4
Residence	Rural	126	44.1
	Urban	160	55.9
Type of institution	Private	186	65.0
	Governmental	100	35.0

Core self-evaluation scale

Core self-evaluation scale (54) was used to measure core self-evaluation (CSE). It comprises 12 items and measures four key elements of CSE: self-esteem, generalized self-efficacy, locus of control, and neuroticism. On a 5-point Likert scale, with 1 denoting strongly disagree and 5 denoting strongly agree. Increased scores reflect positive CSE. Cronbach's alpha in this study was determined to be 0.75

Data analysis

In the present study, a comprehensive analysis was conducted on the collected data to investigate the relationships between dispositional optimism, CSE, and mental well-being among the nursing students. The distribution of the data was first evaluated using a normality test, and then the consistency and reliability of the measurement scales were examined using a reliability test utilizing the Cronbach's alpha. Pearson's correlation test was employed to examine the associations between variables, and multiple regression analysis was conducted to investigate the predictive relationships between independent variables (*e.g.,* dispositional optimism and CSE) and the dependent variable (*e.g.*, well-being). To compare means between the two independent groups on relevant factors, an independent student t-test was conducted. Lastly, to examine the possible mediating role of CSE in the link between dispositional optimism and well-being among the nursing students, mediation analysis utilizing the PROCESS macro designed by Hayes (55) was performed. This comprehensive analytical approach sheds light on the various factors influencing the mental well-being of nursing students and the underlying mechanisms involved.

Results

Table 2 displays the descriptive statistics and

Pearson's correlations among DO, CSE, and MW. The results reveal that DO (r=0.501, p<0.01) and CSE (r=0.600, p<0.01) are both significantly and positively associated with MW.

The findings from the t-test presented in table 3 reveal that the computed t-values for DO (t=-1.545) and MW (t=-1.450) showed no statistical significance at the 0.05 level. This suggests that there is no notable disparity between males and females in their perceptions of DO and MW. However, there were significant differences observed in CSE (t=-2.228).

Multiple regression analyses presented in table 4 reveal significant relationships between dispositional optimism, CSE, and Mental Well-being (MW) among the nursing students. Increased levels of DO are related to increased MW, as reflected by the positive and significant correlation between DO and MW (β= 0.394, p<0.001**). Corresponding to this, there is a strong positive correlation between CSE and MW (β =0.606, p<0.000**), indicating that greater levels of CSE among nursing students are linked to improved MW. The aforementioned results underscore the significance of DO and CSE in fostering favourable mental health consequences within this demographic. Furthermore, the combined impacts of DO and CSE account for around 37.9% of the variation in MW scores, according to the adjusted R-squared value of 0.379. This emphasizes how much these

Table 2. Correlation for all the measures

Constructs	Means	SD	Cronbach's alpha	1	2	3
Dispositional optimism (DO)	23.66	4.31	0.823	**1.00**	-	-
Core self-evaluation (CSE)	38.63	6.67	0.758	0.639 **	**1.00**	-
Mental wellbeing (MW)	47.91	8.54	0.813	0.501 **	0.600 **	1.00

** Correlation is significant at the 0.01 level (2-tailed).

Table 3. Gender-Based Differences in the Mean Scores of Dispositional Optimism, CSE, and Mental Well-being

Variables	Gender	N	Mean	S.D	df	T-value	Sig.
Dispositional optimism	Male	172	23.34	4.109	284	-1.545	0.123
	Female	114	24.14	4.583			
Core self-evaluation	Male	172	37.92	6.207	284	-2.228	0.027
	Female	114	39.70	7.218			
Mental wellbeing	Male	172	47.31	7.826	284	-1.450	0.148
	Female	114	48.81	9.492			

SD: Standard Deviation, df: Degree of Freedom.

Table 4. Results of multiple regressions

Hypothesis	Causal path	Beta coefficient	SE	T-value	Sig.
H2	DO → MW	0.394	0.120	3.272	<0.001**
H3	CSE →MW	0.606	0.078	7.790	<0.000**

Note: SE: Standard Error, p<0.01**, DO: Dispositional Optimism, CSE: Core Self-Evaluation, MW: Mental Wellbeing. Adjusted R2, .379, F, 87.981; R2, .383.

Table 5. Results of the meditational analysis

Proposed pathways	Direct effect	Indirect effect	95%CI	
			LL	UL
Dispositional optimism → CSE	0.9893	-	0.8504	1.1282
Dispositional optimism→ Mental wellbeing	0.3935	-	0.1568	0.6302
CSE → mental wellbeing	0.6056	-	0.4525	0.7586
Dispositional optimism → CSE → Mental wellbeing	-	0.5991	0.4444	0.7686

CSE: Core Self-Evaluation.

psychological factors affect nursing students' mental well-being.

The results from the mediation analysis outlined in table 5 indicate that the pathway (direct effect) from DO to CSE is both positive and statistically significant (b=0.9893, SE=0.0706, p<0.01). This suggests that increased DO is linked with elevated levels of CSE. Furthermore, the direct effects of DO on MW (β=0.3935, SE=0.1203, p<0.01) and CSE on MW (β=0.6056, SE=0.777, p<0.01) are both positive and statistically significant. This reveals that those who score higher on the CSE are more likely than people who score lower on the same scale to report higher levels of MW. Non-parametric bootstrapping was used to evaluate the indirect effect, and the results showed that DO has an impact on MW, but CSE mediates this effect.

Discussion

The present study investigated the complex relationships between dispositional optimism, CSE, and mental well-being. The results revealed that both dispositional optimism and CSE significantly predicted mental well-being, with CSE emerging as the more influential predictor compared to dispositional optimism. This aligns with previous research highlighting the significant role of CSE in shaping individuals' mental health outcomes. These results are in line with past research studies (56-58). For instance, Asgari and Almasi, (59) stated that students with higher levels of positive attachment had more positive attitudes toward their personalities and abilities. As a result, they evaluated themselves more favourably, and this satisfaction led to a more satisfying existence. Negative relationships show the reverse. Literature has consistently shown that different components of CSE such as self-esteem, locus of control, emotional stability, and self-efficacy are strongly associated with mental well-being, highlighting its importance in understanding the overall well-being of students (60-64). Similarly, dispositional optimism has been regularly linked with increased levels of psychological well-being (65). Studies have proposed that individuals with optimism exhibit lower levels of anxiety and stress and increased quality of life, happiness, and overall life satisfaction (36,66-70).

The results of the t-tests revealed that while dispositional optimism and mental well-being demonstrated no significant differences between males and females, a notable gender difference was observed in CSE. These results are supported by past research studies that have explored gender differences in dispositional optimism and mental well-being. For example, Gaibor-González and Moreta-Herrera (71) examined the gender differences in optimism and found that while there may be slight variations in the expression of optimism between genders, overall levels of dispositional optimism do not significantly differ between males and females. Similarly, with respect to mental well-being, research suggests that males may report slightly higher levels of subjective well-being compared to females (72), while others have reported no significant differences (73,74). However, it is important to note that significant differences were observed in CSE between males and females. This implies that there are indeed disparities in the way males and females perceive their CSE (75). Supported by past literature, a study conducted by Mikkelsen *et al* (76) found that women tend to

report lower levels of self-esteem and self-efficacy compared to men. This suggests that gender-based differences in self-evaluation may extend to CSE as well.

Moreover, mediation analysis was employed to explore whether CSE mediates the relationship between dispositional optimism and mental well-being. Our mediation analysis results provide empirical support for the hypothesis that CSE significantly mediated the relationship between dispositional optimism and mental well-being. The attenuation of the direct effect of dispositional optimism on mental well-being after accounting for core self-evaluation suggests that dispositional optimism influences mental health outcomes, at least in part, through its impact on CSE. This highlights the importance of considering core self-evaluation as a psychological mechanism through which dispositional optimism affects individuals' mental health. Moreover, the retention of a significant direct effect of dispositional optimism on mental well-being indicates that dispositional optimism also exerts a direct influence on mental well-being beyond its indirect effect through CSE. This underscores the multidimensional nature of the relationship between dispositional optimism, CSE, and mental well-being.

Overall, findings of the current study contribute to a deeper understanding of the complex pathways linking dispositional optimism, CSE, and mental well-being.

Recognizing the pivotal roles of dispositional optimism and CSE in shaping individuals' mental health outcomes underscores the importance of considering both constructs in interventions aimed at promoting positive psychological functioning.

Implications and limitations

The implications of this study are manifold. By elucidating the complex interplay between dispositional optimism, core self-evaluation, and mental well-being, it offers valuable insights for both theory and practice. The identification of core self-evaluation as a significant mediator underscores its pivotal role in shaping individuals' mental health outcomes, highlighting the importance of considering intrapersonal factors in models of psychological well-being. Moreover, the observed gender difference in core self-evaluation emphasizes the need to address gender-specific factors in interventions aimed at promoting mental well-being. Practically, integrating assessments of dispositional optimism and core self-evaluation into clinical evaluations could enhance treatment efficacy, allowing for tailored interventions that address underlying beliefs and self-perceptions. Even though the present study is extensively added to the literature, there are certain limitations in the present study. The current study employed a cross-sectional design, which limits the capability of the study to establish causality between dispositional optimism, core self-evaluation, and mental well-being among nursing students. Future longitudinal research could provide a more detailed understanding of the relationship of these variables over time. Moreover, the sample consisted of nursing students from Punjab, India, which may limit the generalizability of the findings to other populations or geographic regions. Future studies should aim for more diverse and representative samples to enhance the external validity of the results.

Conclusion

The results of the present study supported the predictive role of dispositional optimism and core self-evaluation in the mental well-being of nursing students. These findings highlight the significant influence that a positive outlook and a strong sense of self-worth have on the overall psychological health of individuals in demanding educational environments. Moreover, the present study highlighted the underlying mechanism through which dispositional optimism influences nursing students' mental well-being, revealing that core self-evaluation acts as a vital mediator in this relationship. This suggests that fostering a positive self-evaluation can enhance the beneficial effects of optimism on mental health. Therefore, interventions aimed at improving nursing students' self-evaluation and optimism may be effective strategies for promoting their mental well-being, potentially leading to better academic and professional outcomes. These insights provide valuable implications for educational institutions and mental health practitioners in developing targeted programs to support the psychological resilience of nursing students.

Ethical statement

The study adhered to the principles outlined in the Declaration of Helsinki and its subsequent revisions, ensuring ethical conduct throughout the research process. Prior to enrolment, all the participants provided informed consent in writing, demonstrating their understanding and voluntary participation in the study. The present study was reviewed and accepted by the Department of Psychology, a lovely professional university.

Declaration of funding

The present research is independent and has not been funded by any agency.

Conflict of Interest

The authors declare no conflict of interest.

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