Abstract:

Aims: To assess the impact of flourishing on job satisfaction while examining the mediating role of engagement.

Background: Job satisfaction and engagement are crucial for the quality and retention of patient care. However, the role of psychological well-being, specifically flourishing, in promoting job satisfaction and engagement among nurses is understudied.

Objective: To explore whether engagement mediates the link between flourishing and job satisfaction among nurses.

Methods: This cross-sectional study conducted in Jordan among 217 nurses aimed to investigate the relationship between flourishing and job satisfaction and whether engagement mediates this relationship. Data were collected using self-administered online surveys, including three instruments: the Flourishing Index, Utrecht Work Engagement Scale, and Index of Job Satisfaction. SmartPLS 3 software was used for the data analysis.

Results: The structural model was evaluated using $R^2$, $Q^2$, and SRMR values, which indicated a strong predictive capability and acceptable model fit. Hypotheses testing revealed that flourishing does not have a significant impact on satisfaction (not supported) but has a significant impact on engagement (supported), and engagement has a significant impact on satisfaction (supported). The mediation analysis showed that engagement fully mediated the relationship between Flourishing and Satisfaction. In conclusion, this study emphasizes the importance of work engagement in the relationship between flourishing and job satisfaction among nurses.

Conclusion: These findings suggest that organizations should focus on promoting positive psychological states and engagement to improve nurses' well-being and job satisfaction. Future research should explore this relationship by using more objective and longitudinal measures.

Keywords: Job satisfaction, Engagement, Flourishing, Nurses, Mediation analysis, Utrecht work engagement scale.

1. INTRODUCTION

Job satisfaction and engagement of nurses are important elements that affect the quality of patient care and the retention of nursing staff, given the critical role that nurses play in the healthcare system. Previous studies have identified several factors that impact nurses’ job satisfaction and engagement, including working conditions, job demands, and personal traits [1,2]. However, less attention has been paid to the role of psychological well-being in promoting job satisfaction and engagement among nurses.

Flourishing is defined as “the experience of optimal human functioning” [3], and it has been found to be a significant predictor of job satisfaction and engagement in different
occupational groups. Studies have shown that individuals who experience higher levels of flourishing tend to have greater job satisfaction and engagement in their work [4,5]. Flourishing encompasses various components of well-being such as positive emotions, meaning, purpose, and positive social relationships [3]. However, the relationship between flourishing and job satisfaction among nurses has not been explored extensively.

Additionally, it remains unclear whether the relationship between flourishing and job satisfaction is mediated by engagement, which refers to an individual's level of attention, curiosity, interest, and passion for their job [6]; engaged workers tend to experience positive emotions and job satisfaction and perform well in their job [6]. Exploring the mediating role of engagement in the association between flourishing and job satisfaction can offer valuable insights into promoting job satisfaction and engagement among nurses.

The outcomes of this study regarding the crucial role of engagement in linking flourishing and job satisfaction among nurses have noteworthy implications for both health care practitioners and researchers. The finding that engagement serves as a mediator in the relationship between flourishing and job satisfaction emphasizes the significance of creating a positive work environment for nurses that enhances their well-being and job satisfaction. Additionally, this study's results add to the growing literature on flourishing, a concept that has gained increasing attention in the field of positive psychology. This research further enhances our understanding of the relationship between flourishing and job satisfaction among nurses and offers empirical evidence that supports the positive impact of flourishing on engagement and job satisfaction.

In terms of practical implications, findings of this study suggest that healthcare organizations can promote flourishing among their nursing staff by providing a work environment that fosters positive emotions, meaningful work, and supportive relationships. By doing so, healthcare organizations can enhance nurse engagement, which, in turn, can improve job satisfaction and reduce staff turnover.

Overall, the results of this study have important implications for the nursing and health care industries. The findings emphasize the need to create positive work environments that promote flourishing and engagement to enhance nurses’ job satisfaction and well-being. This study also adds to the existing knowledge on flourishing and extends our understanding of its association with job satisfaction among nurses.

Thus, the study's objective is to explore whether engagement mediates the link between flourishing and job satisfaction among nurses and to test the following hypotheses (as shown in Fig. 1):

Hypothesis 1 (H1): Flourishing significantly affects job satisfaction.

Hypothesis 2 (H2): Flourishing significantly affects engagement.

Hypothesis 3 (H3): Engagement will have a significant effect on job satisfaction.

2. METHOD

2.1. Site, Setting, and Design

A cross-sectional study was conducted in northern Jordan to collect data from nurses in different units. This study was part of a research project titled “Distraction cost among Saudi and Jordanian nurses: a comparative cross-sectional study.”

2.2. Participants

This study included 217 nurses working in hospital settings in Jordan. Participants were recruited through convenience sampling and were required to have at least one year of experience as a nurse.

2.3. Data Collection Procedures

The data were collected using a self-administered online survey. Three instruments were used to collect data from participants. The Flourishing Index was used to assess six domains related to human flourishing: Happiness and Life Satisfaction, Mental and Physical Health, Meaning and Purpose, Character and Virtue, Close Social Relationships, and Financial and Material Stability. Each domain contains 12 items rated on an 11-point scale, with higher scores indicating more favorable reactions [7,8]. The Utrecht Work Engagement Scale was used to assess work engagement, which has three dimensions: vigor, dedication, and absorption. All items were rated on a seven-point frequency scale based on the previous week's performance [9,10]. The Index of Job Satisfaction, a self-report psychometric tool, was used to measure job satisfaction. The short version of the scale, which included five items, was used, and the participants rated each item on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The internal consistency of the job satisfaction scale was α = 0.89 [11,12]. To ensure the validity and reliability of the data, the survey was pre-tested with a group of nurses before being distributed to the study sample.
2.4. Ethical Considerations

Ethical concerns were addressed throughout the study. Participants were given an informed consent form detailing the study aims and methods. They were also advised that the research was voluntary and that they could withdraw from the study at any time without penalties. The study was approved by the Institutional Review Board (IRB) of the research organization (reference number IRB-2022-04-275) obtained from Imam Abdulrahman Bin Faisal University. The IRB ensured that the study met the required ethical standards and protected the rights and well-being of participants. This study followed the guidelines of the Declaration of Helsinki for the inclusion of human subjects. Confidentiality of the participants was ensured by removing all identifying information from the data and storing it on a secure server.

2.5. Data Analysis

The study utilized SmartPLS 3 software to analyze the data, which included checking factor loadings, composite reliability, and average variance extracted to ensure convergent validity. Before conducting the structural equation modeling (SEM) analysis, normality and multicollinearity assumptions were assessed. SEM analysis was performed using SmartPLS software (version 3.0) to test the hypothesized model and examine the relationships between the latent constructs (i.e., flourishing, engagement, and job satisfaction), including direct and indirect effects. Bootstrapping was used to generate confidence intervals and assess the significance of the relationships in the model. The researchers set the significance level at $p < 0.05$ and used a minimum of 5,000 bootstrap resamples. The results of the SEM analysis were used to evaluate the hypothesized model and to investigate the mediating role of engagement in the relationship between flourishing and job satisfaction.

3. RESULTS

3.1. Measurement Model

The study employed Cronbach’s alpha and composite reliability (CR) were used to assess the reliability of the constructs. All CRs were above the recommended value of 0.70, as suggested by [13]. Moreover, Cronbach's alpha of each construct surpassed the 0.70 threshold (Fig. 2). Convergent validity was assessed using Average Variance Extracted (AVE), which ranged from 0.365 to 0.539. According to Fornell and Larcker (1981), a construct's convergent validity is considered adequate if the AVE is less than 0.5, but composite reliability is higher than 0.6. The study's factor loadings, presented below, met the minimal level of structure interpretation, with a range of $±0.30$–$±0.40$, according to [15]. All factors and their subscales were highly significant. Table 1 presents the results for reliability and validity along with the factor loadings for the items.

![Fig. (2). Measurement model.](image)

| Engagement 1 | 0.681 | 0.914 | 0.922 | 0.911 | 0.539 |
| Engagement 2 | 0.734 | - | - | - | - |
| Engagement 3 | 0.912 | - | - | - | - |
| Engagement 4 | 0.805 | - | - | - | - |

Table 1. Factor loading, cronbach alpha, rho A, composite reliability and AVE.
The study evaluated discriminant validity using the Fornell-Larcker criterion, which showed that the square root of AVE for each construct was higher than the inter construct correlation (Table 2). The heterotrait–monotrait ratio of correlations was also used to assess discriminant validity, with values below the threshold of 0.90. As a result, the study concluded that discriminant validity was established (Table 3).

### 3.2. Structure Model

The structural model reflects the expected relationships among the variables in the research framework (Fig. 3). The assessment of the structural model considers $R^2$ and $Q^2$ and the significance of the paths. The study used 5000 resamples to generate 95% confidence intervals, as presented in Table 4. A confidence interval that differed from zero indicated a significant relationship. The results of hypothesis testing are summarized in Table 4.

The quality of the structural model was evaluated based on the $R^2$ value, which indicates the strength of each structural path for the dependent variable [16]. An $R^2$ value equal to or greater than 0.1 [17] was considered appropriate. According to the results presented in Table 4, all $R^2$ values exceeded 0.1, indicating a strong predictive capability of the model. The $Q^2$ values also show that the model has predictive relevance, with all constructs demonstrating significance (Table 4). Additionally, an SRMR value of 0.08 indicates an acceptable model fit [18].

### Table 2. Fornell-Larcker Criterion discriminant validity.

<table>
<thead>
<tr>
<th>-</th>
<th>Engagement</th>
<th>Flourishing</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>0.734</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flourishing</td>
<td>0.43</td>
<td>0.604</td>
<td>-</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.814</td>
<td>0.452</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Note: The bold italicized text is the square root of the AVE.

### Table 3. Heterotrait-Monotrait Ratio of Correlations (HTMT) discrimination validity of the measurement model.

<table>
<thead>
<tr>
<th>-</th>
<th>Engagement</th>
<th>Flourishing</th>
<th>Satisfaction</th>
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<tbody>
<tr>
<td>Engagement</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flourishing</td>
<td>0.415</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.812</td>
<td>0.475</td>
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</tbody>
</table>
The Mediating Role of Engagement between Flourishing and Job Satisfaction

Table 4. Results of hypothesis testing, R², Q² and SRMR.

<table>
<thead>
<tr>
<th></th>
<th>β</th>
<th>SD</th>
<th>T Statistics</th>
<th>P Values</th>
</tr>
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<tbody>
<tr>
<td>Engagement -&gt; Satisfaction</td>
<td>0.759</td>
<td>0.049</td>
<td>15.545</td>
<td>0.000</td>
</tr>
<tr>
<td>Flourishing -&gt; Engagement</td>
<td>0.430</td>
<td>0.07</td>
<td>6.111</td>
<td>0.000</td>
</tr>
<tr>
<td>Flourishing -&gt; Satisfaction</td>
<td>0.126</td>
<td>0.07</td>
<td>1.80</td>
<td>0.072</td>
</tr>
<tr>
<td>R Square</td>
<td>0.185</td>
<td>0.086</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.675</td>
<td>0.257</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Saturated Model</td>
<td>0.08</td>
<td>2.222</td>
<td>0.981</td>
<td>1032.732</td>
</tr>
<tr>
<td>Estimated Model</td>
<td>0.08</td>
<td>2.222</td>
<td>0.981</td>
<td>1032.732</td>
</tr>
</tbody>
</table>

Table 5. Total, direct, specific indirect effects.

<table>
<thead>
<tr>
<th></th>
<th>Total Effect</th>
<th>T</th>
<th>Sig</th>
<th>Direct Effect</th>
<th>T</th>
<th>Sig</th>
<th>Indirect Effects</th>
<th>Effect</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng -&gt; Sat</td>
<td>0.759</td>
<td>15.545</td>
<td>0.000</td>
<td>0.759</td>
<td>15.545</td>
<td>0.000</td>
<td>Flourishing -&gt; Eng -&gt; Sat</td>
<td>0.327</td>
<td>5.594</td>
<td>0.000</td>
</tr>
<tr>
<td>Flourishing -&gt; Eng</td>
<td>0.430</td>
<td>6.111</td>
<td>0.000</td>
<td>0.430</td>
<td>6.111</td>
<td>0.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Flourishing -&gt; Sat</td>
<td>0.452</td>
<td>6.796</td>
<td>0.000</td>
<td>0.126</td>
<td>1.8</td>
<td>0.072</td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

To further evaluate the model's goodness of fit, the hypotheses were tested to determine the significance of the relationships. H1 examined whether flourishing has a significant impact on satisfaction. The findings reveal that flourishing does not have a significant impact on satisfaction (β = 0.126, t = 1.80, p = 0.072); therefore, H1 was not supported. Conversely, H2 finds that flourishing has a significant impact on engagement (β = 0.430, t = 6.111, p = 0.000) and H2 is supported. Finally, H3 examined whether engagement had a significant impact on satisfaction, with the results indicating a significant impact (β = 0.759, t = 15.545, p = 0.000); thus, H3 was supported.

3.3. Mediation Analysis

A mediation analysis was performed to assess the mediating role of engagement. The results (Table 5) reveal the full mediating role of engagement (β = 0.327, t = 5.594, p = 0.000).

4. DISCUSSION

This study aimed to explore the mediating effect of engagement on the connection between flourishing and job satisfaction in nurses. The results of the structural model showed that flourishing had a notable effect on Engagement, and Engagement had a considerable effect on Job Satisfaction. However, Flourishing does not directly affect Job Satisfaction.
Further analysis revealed that engagement fully mediated the relationship between Flourishing and Job Satisfaction. Overall, this study suggests that engagement is a crucial factor in the connection between Flourishing and Job Satisfaction among nurses.

The findings of this study align with earlier research that has shown how engagement is a significant predictor of job satisfaction among nurses [19, 20]. Engaged nurses tend to feel content with their jobs, which can translate into better patient care, higher retention rates, and less burnout among nurses [19]. This study builds on past research by emphasizing the crucial mediating function of engagement in the link between flourishing and job satisfaction among nurses.

The finding that flourishing has a significant impact on engagement is consistent with previous research that has shown that positive psychological states such as flourishing can enhance engagement among employees [21]. Flourishing involves personal growth and development, and nurses who experience flourishing may be more likely to be engaged in their work as they may feel a sense of purpose and meaning in their job. This finding highlights the importance of promoting positive psychological states among nurses, which may lead to increased engagement and job satisfaction.

The absence of a significant direct association between flourishing and job satisfaction in this study could be explained by the involvement of engagement as a mediator. This finding suggests that engagement may act as a channel through which flourishing affects nurses’ job satisfaction. When nurses are engaged, they tend to feel more committed to and involved in their work, resulting in higher levels of job satisfaction. Thus, it is crucial to prioritize strategies aimed at enhancing engagement among nurses, as this can potentially lead to increased job satisfaction.

The findings of this study have important implications for nursing practice and management. The promotion of positive psychological states such as flourishing may lead to increased engagement among nurses, which in turn may lead to increased job satisfaction. This may have a positive impact on retention rates, patient care, and nurses’ job satisfaction. Therefore, organizations should consider implementing interventions that promote positive psychological states and engagement among nurses, such as mindfulness training, job crafting, and social support programs [21]. Mindfulness training increases individual engagement by increasing attention and focus, promoting emotional regulation, and fostering a positive work environment [22]. Encouraging nurses to engage in in-service behaviours has been shown to have a positive effect on work engagement [23]. The implementation of social support programs has been associated with higher levels of engagement and job satisfaction among prison staff [24]. Recognition and reward programs have been found to increase nurses’ sense of worth and job satisfaction [25]. In addition, the provision of training and education opportunities is directly related to nurses’ job satisfaction [26]. In addition, the provision of training and educational opportunities is directly related to nurses’ job satisfaction.

5. LIMITATIONS AND FUTURE DIRECTIONS

Although this study makes important contributions, it has some limitations that need to be recognized. One of the main limitations is the cross-sectional design, which hinders the ability to establish causal relationships. Future studies using longitudinal designs are required to better understand the connections among flourishing, engagement, and job satisfaction over time. Another limitation is the use of self-reported measures, which could have been influenced by response bias. To overcome this, future research should explore the use of objective measures such as performance data or supervisor ratings to measure engagement and job satisfaction. Finally, the study was conducted in a single healthcare organization, which restricts the generalizability of the results. Therefore, further studies should explore the mediating role of engagement in the relationship between flourishing and job satisfaction among nurses in various healthcare organizations and cultural contexts. By addressing these limitations and considering additional research methods such as qualitative interviews, objective measures, and diverse samples, future studies can build upon the findings of this research and contribute to a more robust understanding of the complex relationships between flourishing, engagement, and job satisfaction among nurses.

CONCLUSION

In summary, this study underscores the crucial role of engagement in linking flourishing and job satisfaction among nurses. The results indicate that it is vital for organizations to prioritize fostering positive psychological states and engagement among nurses, as this can enhance their job satisfaction and well-being. Further studies should investigate the connections between flourishing, engagement, and job satisfaction in nurses using longitudinal and objective assessments.

LIST OF ABBREVIATIONS

SEM = Structural Equation Modeling
AVE = Average Variance Extracted

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was approved by the Institutional Review Board (IRB) of the research organization (reference number IRB-2022-04-275) obtained from Imam Abdulrahman Bin Faisal University.

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committee and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from all participants.
STANDARDS OF REPORTING
STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS
The data and supportive information is available within the article.

FUNDING
None.

CONFLICT OF INTEREST
The authors declare no conflict of interest financial or otherwise.

ACKNOWLEDGEMENTS
Declared none.

REFERENCES