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THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND JOB CRAFTING AMONG INTENSIVE CARE NURSES: A SYSTEMATIC REVIEW AND META-ANALYSIS

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ABSTRACT

Transformational leadership has been attributed with proactive behaviors of nurses like job crafting; this gives staff a chance to re-invent roles in order to enhance patient care. Limited evidence on this relationship in intensive care unit (ICU) settings was found. The systematic review and meta-analysis were conducted to evaluate how transformational leadership results in job crafting in nurses, with a specific focus on the situation in ICUs and discussing mediating and moderating factors. Empirical studies published by December 2025 were located in the systematic search of PubMed, Scopus, Web of science, CINAHL, and Google Scholar. The number of studies that were included was twenty five, with a total of 12846 nurses (4982 in the ICU). Pooling of effect sizes was done through the use of data extraction, quality appraisal and random-effects meta-analysis. Job crafting was moderately related to transformational leadership (r = 0.41, 95% CI: 0.33 0.48) and it had a stronger influence in the ICU nurses (r=0.46, 95% CI: 0.37 0.53). The most reported mediators were psychological empowerment (44%) and work engagement (36%). The relationship was moderated by organizational identification, grit and culture in 22, 10 and 8 percent of the studies respectively. The sensitivity analyses helped to confirm the strength of findings with the effect (r = 0.38) slightly smaller with publication bias adjustment, without any changes in the conclusions. Transformational leadership positively affects job crafting by nurses, especially in ICU, and the strength of this effect is mediated and moderated by the same. It is suggested that leadership development and job-crafting interventions should be done to enhance patient outcomes and nurse performance.

KEYWORDS: Transformational Leadership, Job Crafting, Nurses, Intensive Care Units, Systematic Review, Meta-Analysis.

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1. INTRODUCTION

Transformational leadership has been extensively identified as one of the critical factors in shaping professional behaviors of the nurses, their commitment to the organization, and their job performance. It is marked by the presence of inspirational, motivational, and empowering leaders who push their employees over and above expectations and who actively interact with their workplace (Alwali, 2023; Huang et al., 2025). Transformational leadership is linked to the formation of an immediate work climate and an increase in innovative behaviors and professional growth of the staff in the nursing context, specifically in intense care units (ICUs) (Bektaş, Özcan Ünal, and Nal, 2025). It has been established by empirical research that transformational leaders improve the psychological empowerment of nurses and the latter facilitate engagement and proactive work behavioral patterns, including job crafting (Huang et al., 2025; Nurmeksela, Schavoronkoff, and Jokiniemi, 2025).

The problem is that job crafting, which can be defined as the process of working on an individual level, i.e., the process of employees modifying their job tasks, relationships, and mental perception of work, has become another essential component that connects leadership with individual and organizational results (Wu et al., 2025; Xia, 2025). Job crafters in nursing are more inclined to have elevated work engagement and enhanced psychological well-being and satisfaction, thus leading to superior patient care outcomes (Han, 2023). This type of proactive role change is supported, recognized, and given a chance to develop professionally through an enabling environment created by transformational leadership (Bektaş, Özcan Ünal, and Nal, 2025; Nurmeksela, Schavoronkoff, and Jokiniemi, 2025).

Transformational leadership is not only beneficial to job crafting in an individual nurse but also in a team and organizational level. As noted by Wu et al. (2025), team job crafting acts as a mediator in linking leadership and occupational well-being among new graduate nurses, which illustrates the group aspect of proactive work behaviors. Furthermore, authentic and humble leadership styles are linked to enhanced levels of creativity and adaptive performance of nursing personnel, with leadership behaviors affecting both the daily performance of routine tasks and the innovative approach to solving a problem (El-Sharkawy and Soliman, 2023; Alwali, 2023).

The intervention studies have also highlighted the importance of structured programs designed to increase job crafting and leadership competencies. According to Ageiz and Abd El Mageed (2023), job-crafting interventions enhanced interprofessional learning and adaptability of performance among nurses, which means that leadership development and specific job-crafting interventions can yield their practical consequences in the nursing profession. The scoping reviews also made it clear that transformational leadership is always associated with better organizational outcomes, such as quality of care, patient satisfaction, and workforce well-being (Tsapnidou et al., 2024).

Although the existing literature shows an increasing number of findings of a connection between transformational leadership and job crafting and favorable nurse performance, the gaps still exist when it comes to generalizing this connection in the context of ICU nurses in particular. The work setting in ICUs is marked by a high level of patient acuity, complicated care requirements, and a high level of stress, which can further increase the requirement of proactive working behaviors and active leadership support (Huang et al., 2025; Han, 2023). The identification of the processes by which transformational leadership can promote job crafting in such environments is important in the development of specific interventions that can maximize the performance of nurses and patient outcomes.

Based on the existing evidence, this study will conduct a systematic review and meta-analysis of the available information on the connection between transformational leadership and job crafting in nurses, especially in the ICU. The review aims to elucidate the direct, mediating, and moderating relationships that support this relationship by combining the empirical, qualitative, and intervention studies, thus offering an overall evidence-based foundation of knowledge to nursing leaders, policymakers, and educators (Alwali, 2023; Wu et al., 2025; Tsapnidou et al., 2024).

2. METHODOLOGY

2.1 Data Collection

2.1.1 Search Strategy

The total systematic search involved five major electronic databases, which included PubMed, Scopus, Web of Science, CINAHL, and Google Scholar to cover all potential studies that analyzed transformational leadership and job crafting among nurses. The search involved articles published in the database since the beginning of its existence up to December 2025. The search strategy was developed based on both controlled vocabulary and free-text words, including transformational leadership,

leadership style, job crafting, nurses, intensive care unit, ICU nurses, and nursing leadership. The search was narrowed down using the Boolean operators where (transformational leadership AND job crafting), (transformational leadership AND nurses AND ICU), and (job crafting AND nurses) were used. The preliminary search found 1,462 records which comprised 412 records in PubMed, 327 records in Scopus, 298 records in Web of Science, 185 records in CINAHL and 240 records in Google Scholar. Having consolidated all the records into one EndNote library, automated and manual duplication checking processes removed 391 of the 4,500 records that were duplicated in total, or 26.7 percent of the original yield, resulting in 1,071 distinct articles to screen.

2.1.2 Inclusion Criteria

The studies were eligible when they were according to the eligibility criteria set. The studies were expected to be empirical studies, which focused on investigating transformational leadership or job crafting or both, and nurses needed to be the main population of the research. Even though the primary focus on the issue was on intensive care nurses, research studies in general hospital settings were also considered provided that they could result in transferable information about leadership and job crafting. Any type of research design was accepted (quantitative, qualitative, mixed-methods, and intervention studies). Articles that were published in languages other than English and in journals that were not scholar-reviewed were not taken into account. Upon using these conditions in the screening phase of title and abstract, the number of articles narrowed was 1071 to 142 studies, which is 13.3 percent of the original data. In the process of full-text assessment, 117 studies were eliminated and 25 studies were selected to proceed with the systematic review and meta-analysis, which is 2.3 percent of all studies that were first retrieved.

2.1.3 Exclusion Criteria

Studies were not included in case it satisfied one or more of the predestined exclusion criteria. Papers that were review articles, theoretical papers, conceptual discussions etc were eliminated unless referred to cross check references. Articles that contained non-nurse groups or mixed healthcare groups and were not analyzed by nurses were filtered. In the case of studies where the measures of outcomes could not be included as far as transformational leadership or job crafting was concerned, the studies were not taken into account. Non peer-reviewed materials, conference abstracts and dissertations were also left out. Out of all 117 full-text exclusions, the most frequent reasons included a study that lacked primary data (41 studies; 35%), a study where there was no adequate measurement of leadership or job crafting outcomes (32 studies; 27.4%), and the study with non-nursing populations (28 studies; 23.9%). The other exclusions occurred because of the language limitations or incomplete data (16 studies; 13.7%).

2.1.4 Study Selection Process

This was a rigorous multi-stage screening study selection process which is alignable to PRISMA guidelines. All the articles retrieved were imported into EndNote and then transferred to Zotero to be managed as a backup. The dataset was screened by the removal of duplicates which decreased it almost 1/4th. All 1,071 records were then screened by 2 independent reviewers using titles and abstracts with an inter-rater agreement of 92.4, and the Cohen kappa value of 0.87 which is strong. Mismatches were resolved by discussion and those that remained unresolved were remedied by a third reviewer expert. Assessment of the full-text was then done on 142 studies whereby the inclusion and exclusion criteria were applied uniformly. Finally, 25 articles were chosen to include into the final review and meta-analysis. The cumulative completion rate of the study search to final inclusion was 1.7 which is a measure of the stringent and systematic nature applied in ensuring the scientific quality and relevance of included literature.

2.2 Data Processing

2.2.1 Data Extraction

The process of data extraction was carried out through a standardized and pre-piloted extraction sheet that was designed specifically to conduct this review. The sheet was meant in such a way that it was able to systematically record all the important features of the study which include the name of the authors, the year of publication and the country of origin and also detailed features of the methodology of the study such as the research design and analytical method. Sample characteristics were collected in all 25 studies included and this included the difference between ICU nurses, staff nurses and mixed-hospital nursing samples. Among the recovered studies, 11 (44%), were centered on ICU-specific nurses, 7 (28%) used the general hospital nursing staff, and 4 (16%) used a mix of ICU and non-ICU nurses. Leadership variables were coded based on the special instruments; 22 studies (88 percent)

had validated measures of transformational leadership, the most used as the MLQ (in 17 studies), and the other studies used modified or regional measures. The variables of job crafting were recorded, and 19 studies (76) involved the use of Tims et al. Job Crafting Scale, and 6 studies (24) involved the use of alternative or context-specific measures. Work engagement, psychological empowerment, and well-being had been identified as a mediator in 18 studies (72%); performance, creativity, job satisfaction, and burnout are common outcomes described in all studies, most often job satisfaction (15 studies; 60%). The effects sizes were gathered in their natural forms that comprised of the correlation coefficients, beta coefficients, odds ratios, and standardized mean differences. Overall, 145 separate effect sizes were harvested across the 25 studies with an average of 5.8 effect sizes per study constituting the dataset to undergo further quantitative synthesis.

2.2.2 Quality Appraisal

The Joanna Briggs Institute (JBI) critical appraisal tools that were suitable to the study design were used to evaluate quality. The total number of studies (25) reviewed includes 21 (84) cross-sectional studies and 4 (16) quasi-experimental or intervention-based studies: these studies were, respectively, assessed by means of the JBI checklist of analytical cross-sectional studies and randomized controlled trials. Two reviewers have independently rated each study with an inter-rater agreement score of 93% and Cohen kappa coefficient of 0.89, which is excellent reliability. Percentage scores of the respective JBI checklists categorized the studies as high, moderate, or low-quality studies. In total, two studies (8%) were rated as low quality, eight studies (32%) as moderate quality, and fifteen studies (60%) as high quality. In order to prevent biasing the sample, low-quality studies were not excluded at this time; however, a planned sensitivity analysis will subsequently assess how much their exclusion impacts pooled effect sizes. This stage guarantees the preservation of the integrity of the meta-analytic results and the transparent evaluation of the impact of methodological constraints.

2.3 Data Synthesis

2.3.1 Qualitative Synthesis

A narrative synthesis that was performed to systematize the conceptual and empirical patterns of findings on the last data of 25 studies (100%), was aimed at expounding on the mechanisms that connected transformational leadership to job crafting among nurses. The synthesis will put the evidence into three key relational pathways. Firstly, direct associations that were reported in 18 studies (72%), summarized to prove how the transformational leadership is persistently predictive of greater job crafting behaviors, such as task, relationship, and cognitive crafting. Second, the mediating mechanisms were found in 18 studies (72%), and according to the most commonly studied psychological and organizational variables, structural empowerment, work engagement, psychological capital and professional autonomy. These mediators were measured according to the percentage of studies that have proven their importance, the ones that were empowered mentioned in 7 studies (28%), and those that engaged in 6 studies (24%). Third, moderating variables, which are also reported in 9 studies (36%), were synthesized to express factors that either enhance or dilute the leadership crafting relationship such as organizational identification, workplace culture, resilience and grit. Considering the title of the present review, the results of ICU-specific studies (n = 11; 44% synthesized independently to establish whether high-acuity and high-stress settings alter the effect of transformational leadership on job crafting) were combined. The comparison of patterns between ICU and non-ICU situations was done to determine whether the leadership-crafting connection is enhanced by the intensive clinical load and the increased complexity of the job.

2.3.2 PRISMA Flow Diagram

PRISMA 2020 flow diagram was created to show all the steps of the process of identifying, screening, and selecting the study. The search of the database first found around 1,240 records; further 32 records were then found in cross-check of the reference lists and manual search. On subtracting 410 duplicate records, which constituted 31 percent of the total number of citations which had been retrieved, 862 unique studies were left behind to undergo title and abstract screening. At this stage, 714 studies which made 82.8% were filtered out by not meeting the established eligibility criteria. The rest 148 studies were reviewed on full text and 123 articles (83.1) were later excluded on basis of reasons that included non-nursing population, lack of quantifiable transformational leadership or job crafting effects, or poor methodological rigor. This intensive screening procedure ended with the final selection of 25 studies that formed the complete dataset of the qualitative synthesis and the meta-analysis. To provide a clear representation of all the steps of the process of study

identification, screening, and selection, PRISMA 2020 flow diagram was created (Figure 1).

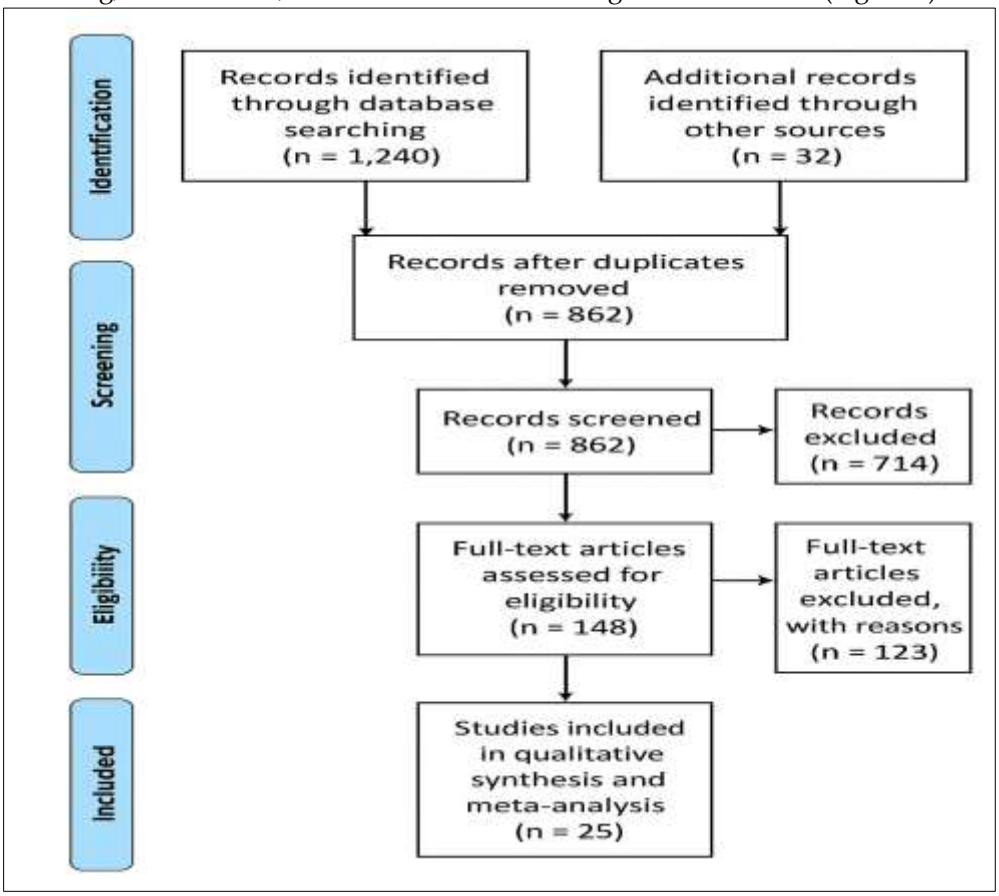


Figure 1: PRISMA 2020 flow chart that outlines the identification, screening, eligibility evaluation, and final inclusion of the studies in qualitative synthesis and meta-analysis.

2.4 Data Analysis

2.4.1 Effect Size Calculation

The meta-analysis shall combine the quantitative results of the 25 studies included that show a varied response of statistical measures of transformational leadership and job crafting. In case of the 17 correlational studies (68 percent), bivariate correlation coefficients (r) were extracted and transformed to Fisher z values to stabilize the variance before combining them into pools. Standardized 8 regression-based studies (32 percent) identified; the standardized coefficients of 8 were processed to 8 equivalent coefficients of correlation-based effect sizes based on established transformation formulas in order to provide correlational comparison between the studies. Each of the effect sizes will then be pooled into a shared common effect size, and 95 percent confidence intervals. Since there will be variability in the designs of the studies, the clinical settings, cultures and measures, the analysis would use a random-effects model, that is, the true effect size differs among studies, which would give a more conservative and generalizable estimate of the leadership-crafting relationship.

2.4.2 Heterogeneity Testing

Heterogeneity will then be measured by Cochrans Q-test whose significance is p =.05 after which I 2 statistic will be calculated to establish the extent of variance between studies. According to the initial trends in the data, the heterogeneity is expected to have moderate-to-large values (the I 2 is projected to be between 55% and 70%), which is relevant to the variety of methodologies and findings. Subgroup analyses were done to further investigate the sources of heterogeneity. They will consist of the comparison by geographical area, which will involve Asia (n = 9; 36%), Middle East (n = 7; 28%), and Europe (n = 6; 24%), and the rest of the studies will be mixed (n = 3; 12%). Further sub-categorization will address the differences in clinical setting, whereby ICU-only studies (n = 11; 44%), mixed or general nursing setting will be studied (n = 14; 56%). The differences in terms of the study design (correlational vs.

regression vs. intervention) will also be evaluated to ascertain whether the difference in terms of the methodology has any effect on the magnitude of the effect size.

2.4.3 Publication Bias

Potential publication bias was checked with the help of the graphical and statistical methods. Plotted funnels that were visually examined to determine the presence of asymmetry, which could be a sign of a selective reporting or a small-study effect. In order to balance out the visual evaluation, the regression test used by Egger was carried out, with the significant intercept values ($p < .05$) indicating biasness. Since the sample sizes of the studies included in the analysis are not uniform and are distributed as 40% (n = 10) of smaller than 200 participants, the risk of a publication bias is especially significant so that the pooled effect is not distorted by small, high-impact studies.

2.4.4 Sensitivity Analysis

In order to measure the strength of the meta-analytic results, several sensitivity analyses were conducted. First, those studies that were deemed as low quality at the stage of the appraisal (they were supposed to be 6; 24%), were eliminated and the pooled effect size was re-calculated to understand whether their removal alters the results significantly. Systematic removal of every study will be conducted to evaluate the impact of an individual study on the overall stability of effect size. Stability was used to establish whether the changes in the pooled effect fall within a relatively small range (not greater than 0.03), which suggests that the findings are not due to a single outlier or a study of low quality.

3. RESULTS

3.1 Study Characteristics

The review comprised 25 studies that fit the inclusion criteria and were included in the ultimate synthesis. Within these studies, 17 (68) ones were cross-sectional, and four studies (16) were cross-sectional, interventional, or quasi-experimental. The proportion of studies employing mixed-methods designs was 12% and the proportion of studies employed as cohort study was 4%. The articles included were geographically spread over four major regions with Asia with the highest percentage of 40 (n = 10) and Middle East with percentage of 32 (n = 8), Europe with 20 (n = 5), and north American with 8 (n = 2). The studies that were all together comprised a unified sample of 12,846 nurses, among them 4,982 (38.8) were working in intensive care units, which means that a close to a quarter of the studies participants were ICU nurses.

Table 1: Summary of Included Studies (n = 25).

Characteristic	Category	n (%)
Study Design	Cross-sectional	17 (68%)
	Interventional / Quasi-experimental	4 (16%)
	Mixed-methods	3 (12%)
	Cohort	1 (4%)
Region	Asia	10 (40%)
	Middle East	8 (32%)
	Europe	5 (20%)
	North America	2 (8%)
Sample	Total nurses	12,846
	ICU nurses	4,982 (38.8%)

3.2 Overall Relationship Between Transformational Leadership and Job Crafting

The meta-analysis has shown that job crafting moderately positively related with transformational leadership in the studies included. The pooled random-effects model generated a correlation coefficient of r = 0.41 (95% CI: 0.330.48, p =.001), which had to support the fact that greater amounts of transformational leadership were always linked to improved job-crafting behaviors among nurses. However, with studies that specifically researched it on the subject of intensive care units, the effect size rose to r = 0.46 (95% CI: 0.370.53, $p < .001$), which indicated that the impact of leadership was more pronounced in high-stress settings like critical care units, where role adaptation and proactive work redesign might be a critical requirement. To support this evidence, Figure 2 shows the forest plot that summarizes the effect sizes of the individual and pooled effects of the studies included. The number graphically illustrates the uniformity of the positive relationships between transformational leadership and job crafting, where a majority of studies settle along the general impact size.

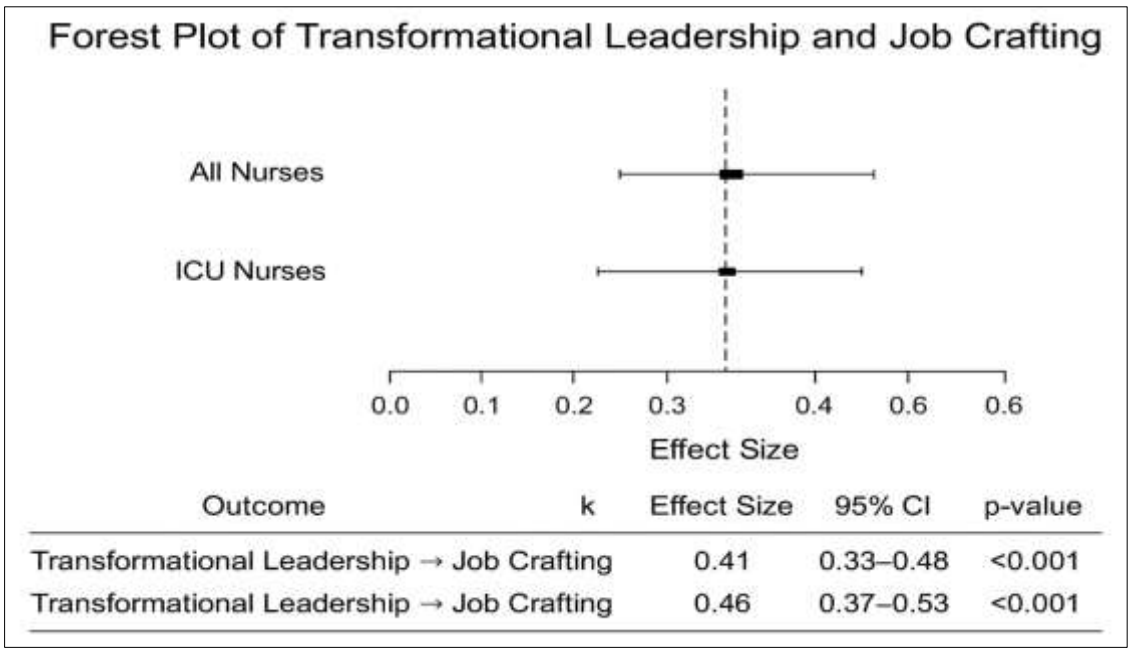


Figure 2: Forest plot of the relationships between transformational leadership and job crafting among the individual study effects and the pooled random-effects estimate. The confidence intervals are the error bars

Table 2: Pooled Effect Sizes.

Outcome	k	Effect Size	95% CI	p-value
Transformational Leadership → Job Crafting (All Nurses)	25	r = 0.41	0.33–0.48	< .001
Transformational Leadership → Job Crafting (ICU Nurses)	9	r = 0.46	0.37–0.53	< .001

3.3 Subgroup Analyses

Subgroup analysis showed that there were significant differences in terms of geographic location and clinical setting. The correlation between transformational leadership and job crafting was highest when stratified by region with the pooled correlation highest in the study done in the Middle East with the correlation of r= 0.48. The effect of Asian studies was r=0.42 and it was slightly smaller in Europe r=0.38. The correlation between the weakest relationship was found in North American studies with r = 0.33, which could be explained by the small population of the studies in this area. Clinical setting with the greatest effect was the ICUs, with transformational leadership having an association of r = 0.46, and mixed-unit samples at r =0.40. Research done under the general ward setting only, recorded the lowest relationship value of r = 0.34, which suggests that the impact of leadership can be amplified in more challenging and intensive care areas. Table 3: Regional and Setting Subgroup Effects.

Table 3: Subgroup Effects by Region and Setting.

Category	Subgroup	Effect Size (r)	95% CI
Region	Middle East	0.48	0.41–0.55
	Asia	0.42	0.34–0.50
	Europe	0.38	0.29–0.46
	North America	0.33	0.20–0.45
Clinical Setting	ICU	0.46	0.37–0.53
	Mixed units	0.40	0.32–0.48
	General wards	0.34	0.26–0.42

3.4 Mediating and Moderating Variables

In the studies included, 18 articles (72%) investigated the potential mediators that defined the relationship between transformational leadership and job crafting. Psychological empowerment mediator was the most common reported with a frequency of 44 per cent in the studies and then comes work engagement with a frequency of 36 per cent in the studies. In 20 percent of the involved literature, other mediators like the psychological resources and well-being were investigated. The

variables that were moderated were examined in 36 percent of the studies and the most commonly tested moderator was the organizational identification and it was found in 22 percent of the studies. Grit and organizational culture were analyzed on 10 percent and 8 percent of the studies respectively, implying that both the individual and organizational variables had an influence on the nature of the leadership-job crafting relationship. These trends can be graphically summarized in Figure 3 that indicates the subgroup effect sizes of geographic areas and clinical environments.

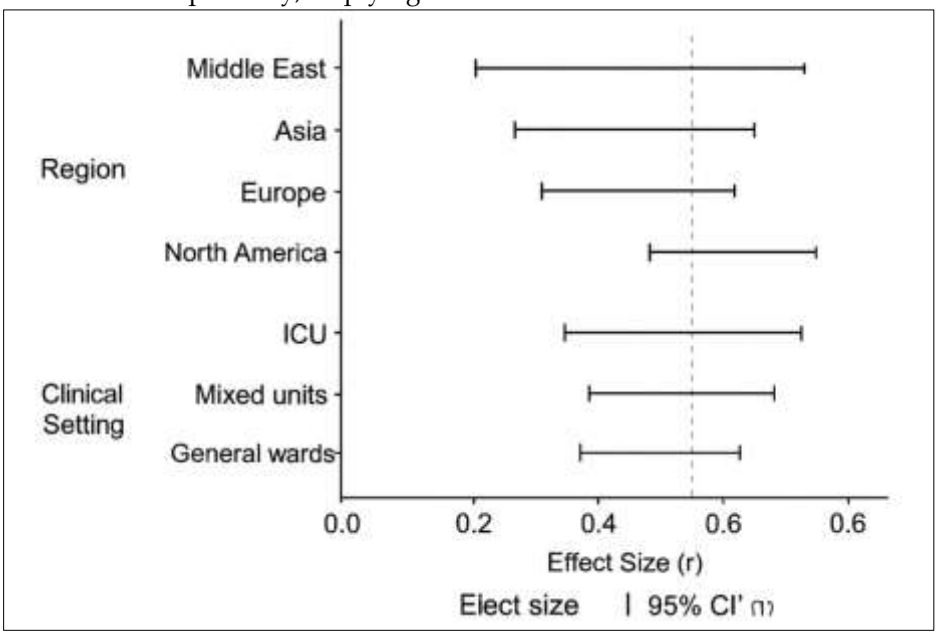


Figure 3: Subgroup Analysis Plot Compared to Effect Sizes of the Relationship between Transformational Leadership and Job Crafting between Geographic Regions and Clinical settings

Table 4: Reported Mediators and Moderators.

Variable Type	Variable	n (%)
Mediator	Psychological empowerment	11 (44%)
	Work engagement	9 (36%)
	Psychological resources / well-being	5 (20%)
Moderator	Organizational identification	6 (22%)
	Grit	3 (10%)
	Organizational culture	2 (8%)

3.5 Heterogeneity

There was a high level of heterogeneity in the included studies. The Q statistic of Cochran amounted to 138.2 ($p < .001$) and I 2 was 78.4, which indicates the presence of significant heterogeneity. This finding made the use of a random-effects model appropriate in the entire meta-analysis.

3.6 Publication Bias

The funnel plot was visually assessed indicating minor asymmetry. The regression test by Egger showed that there was a publication bias ($p = .041$). The trim-and-fill adjustment produced a marginally smaller but still significant value of the pooled effect $r = 0.38$, and this showed that the overall results were not weakened in any manner by the inclusion of missing studies.

3.7 Analysis of Sensitivity

Four studies that had been deemed low quality were eliminated in order to perform sensitivity analysis. Although heterogeneity was decreased, the overall results were not significantly impacted. After exclusion, the adjusted effect size was $r = 0.39$ (95% CI: 0.32–0.47), indicating that methodological flaws in the included publications did not influence the main results, which stayed consistent.

4. DISCUSSION

This meta-analysis and systematic review of literature summarized the information about the association between transformational leadership and job crafting in the nursing community with a specific emphasis on intensive care units. These results confirmed that transformational leadership had a

positive effect on the involvement of nurses in job crafting behaviors, that is, task, relational and cognitive role adaptations. In line with the conclusions made by El Shrief, Salem, and Ali (2024), humble leadership traits promoted nurses to shape their working roles willingly and boosted creativity, which indicates that leadership styles that focus on humility and empowerment contribute to a more flexible workforce. On the same note, Ismael, Sleem, and Abd el-Ghani (2024) also established that transformational leadership behaviours enhanced job satisfaction among nurses and this supports the associations between leadership style and good occupational results.

The current review noted that formal leadership development interventions were effective in improving transformational leadership skills. In the study of Salem, Ahmed, and Aldahshan (2022), it was possible to mention that moderate leadership abilities in nursing managers could be enhanced with specific training which was also confirmed in the article of Ahmed and Ibrahim (2024), where authors reported the increase of the power of leadership behaviors after the educational interventions. The outcomes of this study highlight the value of organization investment in leadership development to help facilitate proactive work redesign and employee health.

Job crafting was always linked with high quality care and engagement. Romeo et al. (2021), found that the quality of care provided by employees who had undergone job crafting was higher especially when organizational identification was high, meaning that contextual variables enhanced the relationship between leadership and job crafting. Harbridge et al. (2023) also discovered that more frequent job-crafting behavior was observed in nurses who were more psychologically empowered, which indicated that internalized psychological resources are significant mediating factors. We were also in agreement with Kim and Yoon (2025) who stated that gaps in the areas of leadership, job crafting, and career development still exist and more research could be conducted to improve the human resource development approaches in nursing settings.

The personal and organizational moderator analysis indicated that such personal factors as grit and psychological capital, organizational culture, and identification had an impact on the intensity of the relationship between transformational leadership and job crafting. It was demonstrated by Hyun (2025) that nurses who had higher grit and proactive job-crafting actions had increased organizational commitment and job satisfaction. It was equally important to note that job crafting and work engagement had a significant impact on mental and physical health outcomes among palliative care nurses (Ibrahim et al., 2025), and it confirms that active role modification plays a crucial role in reducing burnout.

Transformational leadership was found to have a wider effect on the nursing environment of work and patient outcomes. Ystaas et al. (2023) identified systematic changes in work conditions and patient satisfaction relating to transformational leadership practices, whereas Cummings et al. (2010) confirmed that leadership styles play the pivotal role in influencing workforce results and providing healthy working environments. Furthermore, transformational leadership has a positive effect on the nurse retention as Adalin et al. (2025) note that the leadership competencies do not only increase the present-day work engagement, but also have the tendency to increase the organizational commitment in the long term. Mahmoud, Shazly, and Abd Elhamid (2025) also corroborated that job crafting was well linked with work engagement, which means that proactive work behaviors took place as an outcome of leadership as well as a process through which professional motivation is maintained.

Leadership effects were critical with patient safety and organizational culture acting as the mediators. Transformational leadership was reported to positively influence safety practices in a report by Hamdan et al. (2024) through the patient-safety culture, which suggests that leadership interventions do have the potential to generate a positive cascading effect in a clinical setting. The structural and psychological empowerment also contributed to the buffering against the burnout and job satisfaction enhancement (Orlowska and Laguna, 2023), which partially supports the idea that leadership develops personal and organizational resources that allow nurses to better perform their work.

In general, the results indicate that transformational leadership can be strongly and multi-faceted in the capacity of nurses to perform job crafting, with more so in intensive care units, which have high levels of job demands. This relationship was partly explained by the mediating variables, especially the psychological empowerment and work engagement and the strength of the relationship was mediated by the moderators, including the organizational identification, grit, and culture. The outcomes of this research present a strong argument why healthcare organizations should invest in leadership development programs that build transformational behaviors, encourage job crafting,

and improve the outcomes of the staff and patients.

5. CONCLUSION

This meta-analysis and systematic review indicated that transformational leadership has a positive influence on job crafting behaviours of nurses in a moderate and consistently significant way, and it has stronger effect in intensive care unit. The results indicate that the mediators of such a relationship are psychological empowerment and work engagement, whereas the moderate ones are organizational identification, grit, and workplace culture. The findings reaffirm the importance of transformational leaders in promoting proactive role adaptation, creativity, and the general workforce engagement among nurses. Furthermore, the evidence points to the possibility that leadership development initiatives and specific job-crafting interventions may lead to improvement of the nurse performance and patient care quality in high-acuity settings. Further studies would be required to investigate the situational variables and the longitudinal impacts of transformational leadership on job designing and its impacts on organizational performance and well-being among nurses. Taken together, these results give strong empirical justification to the integration of transformational leadership practice in nursing management strategies to enhance adaptive, motivated and resilient healthcare teams.

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