Mediation Effect of Organizational Justice on Relationship between Transformational Leadership and Job Satisfaction of Middle School Teachers in Anyang City Under Henan Province

Zhang Wei,
Chuanchom Chinatangkul and Kamolmal Chaisirithanya
Bangkokthonburi University, Thailand
Corresponding Author, Email: 6443202004@bkkthon.ac.th

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Abstract

The research problems of this research were: 1) Does the Model of transformational leadership effect on teachers' job satisfaction mediating by organizational justice of middle schools in Anyang city under Henan Province? 2) How transformational leadership effect on teachers' job satisfaction, while taking into account some related variable such as organizational justice?

The objectives of this research were: 1) To propose the model of administrators' transformational leadership effect on teachers' job satisfaction mediating by organizational justice of middle schools in Anyang city under Henan Province, and 2) To decompose administrators' transformational leadership effect on teachers' job satisfaction and organizational justice of middle schools in Anyang city under Henan Province.

The research design adopted a quantitative research method. The population consisted of 4,040 middle school teachers in Anyang City, Henan Province. A stratified random sampling method was used to select 372 teachers as the sample. The data collection tool was a Likert scale-based questionnaire. Data were analyzed using means, standard deviation, confirmatory factor analysis, and structural equation model.

The research findings revealed that :1) The model consisted of three factors: transformational leadership, teacher job satisfaction, and organizational justice. They were valid able and reliable, and the model fit well with empirical data, and 2) Transformational leadership had a positive effect on teachers' job satisfaction and organizational justice. The decomposed effect was statistically significant.

The conclusions were 1) Transformational leadership and organizational justice had direct effect on job satisfaction of middle school teachers and 2) Transformational leadership has indirect effect on teachers' job satisfaction via organizational justice of middle schools in Anyang city under Henan Province.

Keywords: Transformational Leadership; Organizational Justice; Job Satisfaction; Middle School Teachers; Anyang City; Henan Province

Introduction

Organizational behavior research had shown that teacher job satisfaction was significantly positively associated with teaching performance, teacher-student interaction quality, and students' learning motivation and achievement (Bardach et al., 2023). Teachers who were satisfied with their work tended to maintain positive work motivation, engage in creative thinking, and were more willing to experiment with new teaching methods. These practices, in turn, stimulated students' interest and engagement. Satisfaction in key areas such as teaching, student interactions, colleague collaboration, school management, and the work environment played a crucial role in teachers' professional performance. Moreover, higher teacher job satisfaction led to reduced turnover rates and absenteeism, which facilitated high-quality teacher-student interactions and contributed to positive student development (Bardach et al., 2023).

Transformational leadership, a leadership style recognized for its significant impact on employee satisfaction and performance, attracted considerable attention in academic circles starting from the 1980s (Bass & Riggio, 2006). The positive effects of transformational leadership on subordinates' performance and work attitudes, such as organizational commitment and job satisfaction, were widely acknowledged (Judge & Piccolo, 2004; Walumbwa et al., 2008). Numerous subsequent studies, across different organizations and departments, indicated that transformational leadership consistently led to higher employee job satisfaction, with a significant positive correlation between the two (Chao L, 2012). In the Chinese context, Li Chaoping (2005) and colleagues conducted a related study and concluded that only two dimensions of transformational leadership—leadership charisma and virtue modeling—had a significant effect on employee job satisfaction.

Adams' equity theory suggested that individuals sought justice and balance within the process of social exchange. The theory was based on comparison, where individuals assessed the fairness of their input-output ratios (e.g., effort, skill, time) relative to others. Organizational justice, which referred to the fairness of decision-making processes, resource allocation, and the treatment of employees, emerged as an important factor affecting employee satisfaction. Social exchange theory posited that employees who were more satisfied with organizational justice would become more confident in the organization's development and willingly invested extra time and effort to promote the realization of the organization's vision (Zhao & Weiliang, 2010).

Research findings suggested that teacher job satisfaction was influenced by both leadership styles and organizational justice. However, studies specifically examining the relationship between transformational leadership and organizational justice on teacher job satisfaction in middle schools in Anyang City were scarce. Thus, it became essential to develop leaders' capabilities to apply transformational leadership effectively, with a specific emphasis on organizational justice. By highlighting the importance of justice in leadership decisions, leaders could improve teachers' job satisfaction and, consequently, overall school performance.

To conclude the research problem, the findings of this study confirmed that transformational leadership played a significant role in enhancing teacher job satisfaction. It was determined that transformational leadership influenced job satisfaction both directly and indirectly through the mediating effect of organizational justice. The research supported the hypothesis that when school leaders exhibited transformational behaviors—such as inspirational motivation, individualized consideration, intellectual stimulation, and idealized

influence—it led to higher levels of perceived organizational justice among teachers. This, in turn, positively impacted their job satisfaction.

This study aimed to investigate the role of transformational leadership in enhancing teacher job satisfaction through the lens of organizational justice. The findings would have provided practical recommendations for school administrators to implement leadership practices that not only increased teacher job satisfaction but also promoted fairness and justice, thereby contributing to the overall development and effectiveness of educational institutions in Anyang City.

Research Objectives

1. To propose the model of administrators' transformational leadership effect on teachers' job satisfaction mediating by organizational justice of middle schools in Anyang city under Henan Province.

2. To decompose administrators' transformational leadership effect on teachers' job satisfaction and organizational justice of middle schools in Anyang city under Henan Province.

Literature Review

Transformational leadership positively impacted job satisfaction across sectors. Leaders who demonstrated behaviors like inspirational motivation and individualized consideration created supportive work environments that enhanced employee satisfaction (Judge & Piccolo, 2004; Jia, 2020). In China, Li and Shi (2005) found leadership charisma significantly influenced satisfaction.

Organizational justice, based on fairness in decision-making, mediated the effect of transformational leadership on job satisfaction. Leaders who prioritized fairness improved perceptions of justice, boosting satisfaction (Ambrose et al., 2002; Jyoti & Bhau, 2016).

This study's findings confirmed that justice-focused transformational leadership effectively increased teacher satisfaction in Anyang City's middle schools, aligning with prior research (Bardach et al., 2023).

Research Method

1. Research Design

Phase 1: The researcher used the literature review method, in which researcher searched relevant literature and books through the Internet and libraries, and collected and analyzed a large number of relevant studies to obtain the key components of transformational leadership, teachers' job satisfaction, and organizational justice.

Phase 2: The researcher adopted quantitative research methods.

First, a questionnaire was developed based on the key components and indicators of transformational leadership, teachers' job satisfaction, and organizational justice identified in the phase 1 of the study. After the questionnaires were verified the content validity and reliability The questionnaires were distributed and collected, and a structural equation model (SEM) was constructed to examine the mediating role of organizational justice between transformational leadership and teachers' job satisfaction, based on the data collected.

2.Population and Sample

The population of this study was middle school teachers in Anyang city under Henan Province, totaling 4,040 teachers in five district. The sample size was determined by the G*Power program. The settings were specified as follows: Chi-square test at Df = 64, α error probability = 0.05, Effect size w = 0.3, and power = 0.8, resulting in a total sample size of at least 372 teachers, and stratified random sampling was used to select the sample.

3.Research Instruments

Step 1: The research tool for this study was questionnaire, which consisted of the following parts: 1) Demographic information of respondents, 2) Transformational leadership, 3) Organizational justice, and 4) Teachers' job satisfaction. All type of questionnaires were Likert's rating scale with 5 choices

Step 2: Reliability and validity of the instrument: The researcher used the IOC and Cronbach's alpha coefficient to verify the content validity and reliability of the questionnaire

All subscales demonstrate high internal consistency (Cronbach's α > 0.90), which suggests that the scales used are reliable. The use of McDonald's ω provides additional support for reliability, especially for Intellectual Stimulation, Job Environment, and Procedural Justice, indicating robust reliability across the board.

4.Data Analysis

The researcher used data analysis software to classify, organize, and analyze the collected data. The SPSS software package was used to analyze categorical variables. Amos software was used for Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM).

Figure 1 Conceptual framework
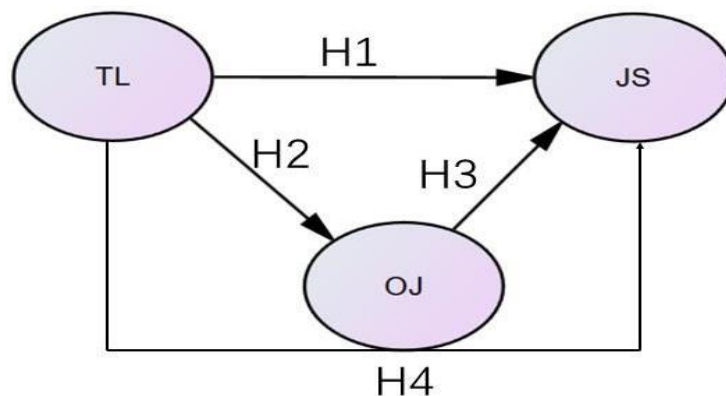
Research Results

1. The model consisted of three factors: transformational leadership, teacher job satisfaction, and organizational justice. They were valid able and reliable, and the model fit well with empirical data.

Table 1 Assumption checks for CFA analysis

<table>
<tr><td colspan="6" align="center">Mardia's coefficients</td></tr>
<tr><td></td><td>Coefficient</td><td>z</td><td>χ^2</td><td>df</td><td>p</td></tr>
<tr><td>Skewness</td><td>38.00</td><td></td><td>2353.00</td><td>165.00</td><td>< .001</td></tr>
<tr><td>Kurtosis</td><td>217.10</td><td>80.90</td><td></td><td></td><td>< .001</td></tr>
</table>

The results from Mardia's test indicated that the data did not follow a multivariate normal distribution, as both skewness and kurtosis showed significant deviations from expected values under normality.

CFA Model Evaluation

Table 2 Measurement model fit valuation after modifying

Label	Estimate	Threshold	Interpretation
X^2	73.335	--	
DF	24	--	
X^2/DF	3.05	Between 1-3	Excellent
CFI	0.99	>0.9	Excellent
TLI	0.985	>0.9	Excellent
SRMR	0.012	<0.08	Excellent
RMSEA	0.074	<0.08	Excellent

Based on the statistical results in the table, the following brief analysis was conducted:
Chi-square to degrees of freedom ratio (X^2/DF) = 3.05: The ratio was between 1 and 3, indicating a good model fit. It met the excellent standard. Comparative Fit Index (CFI) = 0.99:The CFI was greater than 0.9, demonstrating an excellent model fit.

Tucker-Lewis Index (TLI) = 0.985:The TLI was also greater than 0.9, further indicating an excellent model fit. Standardized Root Mean Square Residual (SRMR) = 0.012:The SRMR was less than 0.08, meaning the residuals were low, and the fit was very good. Root Mean Square Error of Approximation (RMSEA) = 0.074:The RMSEA was less than 0.08, suggesting a good model fit.

Based on all fit indices, the model demonstrated an excellent fit, with each indicator meeting the excellent standard, indicating that the model performed as expected with the sample data.

Table 3 Measurement model

| Latent | Observed | Estimate | SE | 95% Confidence Intervals | | β | z | p |
				Lower	Upper			
F1	TL1	1	0	1	1	0.959		
	TL2	0.955	0.0208	0.914	0.995	0.962	45.8	< .001
	TL3	0.999	0.0212	0.958	1.041	0.966	47.1	< .001
F2	JS2	1	0	1	1	0.882		
	JS4	1.035	0.0367	0.963	1.106	0.93	28.2	< .001
	JS5	1.264	0.0427	1.18	1.348	0.949	29.6	< .001
F3	OJ2	1	0	1	1	0.858		
	OJ3	0.972	0.0366	0.9	1.043	0.934	26.5	< .001
	OJ4	1.104	0.0393	1.027	1.181	0.959	28.1	< .001

the analysis demonstrated that all observed variables significantly loaded onto their respective latent factors, as indicated by the high standardized loadings, significant z-values, and p-values of less than 0.001.

Figure 2 Measurement Models Standardized estimates

Measurement Models Standardized estimates

Chi-square=73.335, df=24,
GFI=.960, TLI=.985, NFI=.985, CFI=.990,
RMSEA=.074
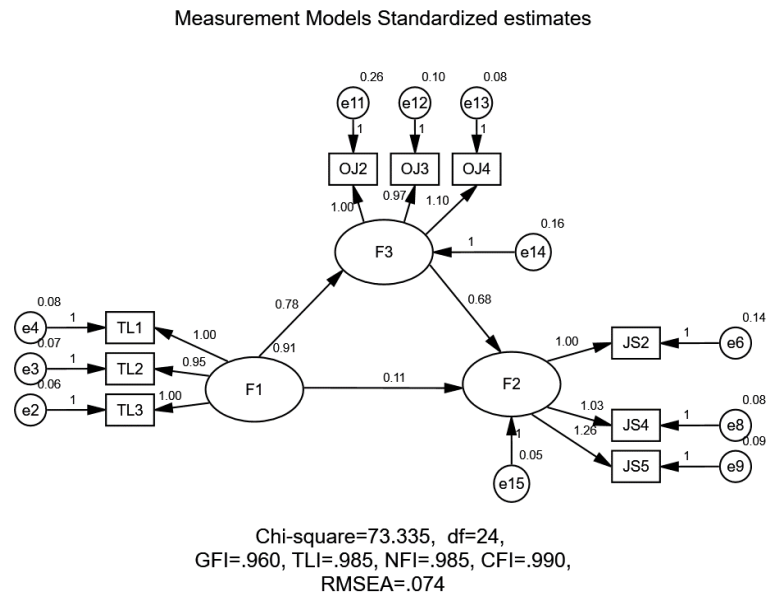
F1/TL   Refers to factor of Transformational leadership
F2/JS   Refers to factor of Job satisfaction
F3/OJ   Refers to factor of Organizational justice
TL1-TL3   Refers to the three dimensions of transformational leadership such as intellectual stimulation, inspirational motivation, individualized consideration.

JS2、JS4、JS5   Refers to the three dimensions of job satisfaction such as job environment, promotion and development, interpersonal relationships.

OJ2-OJ4   Refers to the three dimensions of organizational justice such as distributive justice, leadership justice, and informational justice.

The overall fit indices indicated that the model provided a reasonably good fit to the data.

2. Transformational leadership had a positive effect on teachers' job satisfaction and organizational justice. The decomposed effect was statistically significant.

The decomposed effect was shown in Table 4.4.

Table 4 Decomposition effects (F2 as dependent variable)

Independent variable	DE (Direct Effect)	IE (Indirect Effect)	TE (Total Effect)	Correlation	Spurious
F1	0.153	0.712	0.866	0.866	0.000
F3	0.809	0.000	0.809	0.944	0.135

The table 4 provided shows the decomposition of effects with F2 as the dependent variable. Here was a breakdown of the components:

Direct Effect (DE)

In simple terms, it indicated the extent to which the independent variables F1 and F3 directly affected the dependent variable F2. In the table, the direct effect of F1 was 0.153, meaning that when F1 increased by one unit, F2 increased by 0.153 units, assuming all other variables remained constant. The direct effect of F3 was 0.809, indicating that F3 had a more substantial direct influence on F2. When F3 increased by one unit, F2 increased by 0.809 units. This showed that F3 had a more significant direct impact on F2 compared to F1.

Indirect Effect (IE)

It represented the extent to which the independent variables indirectly affected the dependent variable. The indirect effect of F1 was 0.712, indicating that, in addition to its direct effect, F1 exerted a substantial additional influence on F2 through other variables. The indirect effect of F3 was 0.000, suggesting that F3's influence on F2 was entirely direct, with no indirect impact. Therefore, F1 not only directly influenced F2 but also had a significant impact through other pathways within the model.

Total Effect (TE)

For F1, the total effect was 0.866 (0.153 + 0.712), indicating that F1 had a considerable influence on F2, with its primary contribution coming from the indirect effect. The total effect of F3 was 0.809, which was equivalent to its direct effect, as it had no indirect impact. This suggested that although the direct effect of F1 was smaller, its indirect influence on F2 resulted in a total effect of 0.866, slightly higher than the total effect of F3.

The correlation between F1 and F2 was 0.866, indicating a very strong positive relationship. The correlation between F3 and F2 was 0.944, demonstrating an even closer relationship between F3 and F2. Despite the fact that F1's impact on F2 was primarily realized through indirect effects, it maintained a strong correlation with F2. In comparison, F3 had a higher correlation, possibly due to its stronger direct effect.

Discussion

1. Discussion about major findings of objective 1 The first objective of the study was to propose the model of administrators' transformational leadership effect on teachers' job satisfaction mediated by organizational justice in middle schools in Anyang city under Henan Province. The major findings revealed that transformational leadership and organizational justice had direct effects on the job satisfaction of middle school teachers. Furthermore, transformational leadership had an indirect effect on teachers' job satisfaction via organizational justice in middle schools in Anyang city under Henan Province. Therefore, the hypotheses H1, H2, H3, and H4 were all accepted.

In the subsequent discussion, the focus revolved around contextualizing the research findings within the existing literature, highlighting both the alignment and disparities between the research outcomes and the insights garnered from prior studies. The first hypothesis (H1) posited that transformational leadership would have a significant positive impact on teachers' job satisfaction. This hypothesis was supported by several studies. For instance, Ma C (2023) demonstrated that transformational leadership significantly enhanced teachers' job satisfaction by creating a positive and motivating work environment. Similarly, Jia Jingwen (2020) found that transformational leadership practices, such as providing intellectual stimulation and individualized consideration, directly contributed to higher levels of job satisfaction among teachers.

The second hypothesis in this study, after testing the model hypothesis, was supported, indicating that transformational leadership had a significant effect on organizational justice. This finding was consistent with previous research by Robbins and Judge (2016), who found that transformational leadership positively influenced employees' perceptions of justice within an organization. Ambrose et al. (2002) highlighted that transformational leadership contributed to the development of a fair and equitable work environment, which in turn enhanced employees' overall job satisfaction and commitment. Erkutlu (2014) further supported this view by demonstrating that transformational leaders who prioritized ethical decision-making and transparency significantly improved perceptions of organizational justice.

The third hypothesis in this study, after testing the model hypothesis, was supported, indicating that organizational justice had a significant effect on teachers' job satisfaction. This finding aligned with previous research conducted by Leung, F. F., Kim, S., & Tse, C. H. (2020), who found that when teachers perceived justice in organizational processes, their overall job satisfaction was significantly enhanced. Robbins and Judge (2011) also supported this view by demonstrating that perceptions of organizational justice were closely linked to teachers' job satisfaction.

The fourth hypothesis in this study, after testing the model hypothesis, was supported, indicating that organizational justice played a significant mediating role in the relationship between transformational leadership and teachers' job satisfaction. This finding aligned with the research conducted by Jyoti and Bhau (2016), who demonstrated that when organizational

justice was present, the effects of transformational leadership on teachers' job satisfaction were significantly enhanced. Erkutlu (2014) also noted that the presence of organizational justice was essential for transformational leadership to fully realize its potential in enhancing job satisfaction.

     2. Discussion about major findings of objective 2

     The second objective of the study was to decompose the effect of administrators' transformational leadership on teachers' job satisfaction and organizational justice in middle schools in Anyang City, Henan Province. The major findings revealed several key points. Transformational leadership significantly influences job satisfaction among middle school teachers, primarily through organizational justice, highlighting the role of fairness in the workplace as a mediator.

     Consistent Research Findings: Several studies align with these results. For instance, Ma (2023) in the study "The Impact of Transformational Leadership on the Job Satisfaction of Young Civil Servants in the Qinghai Tax System: The Mediating Role of Organizational Justice," found that transformational leadership positively impacts job satisfaction by fostering perceptions of fairness. This suggests that leaders who exhibit transformational behaviors help create a fairer organizational environment, enhancing job satisfaction.

     Similarly, Jia Jingwen (2020) in the master's thesis "The Effect of Transformational Leadership on Teachers' Job Satisfaction in Secondary School Principals," demonstrated that transformational leadership practices, such as intellectual stimulation and individualized consideration, significantly contributed to higher levels of job satisfaction. These practices are consistent with creating an equitable and supportive environment, thus enhancing overall satisfaction among staff.

     Furthermore, Erkutlu (2014) highlighted the importance of ethical leadership in establishing fairness within the workplace. This research underscores that transformational leaders who prioritize ethical decision-making and transparency can significantly improve perceptions of organizational justice, which aligns with the findings in this study that transformational leadership indirectly affects job satisfaction through organizational justice.

     These studies collectively reinforce the conclusion that transformational leadership, when combined with the principles of organizational justice, creates a conducive environment for improving job satisfaction, thereby supporting the key findings of this research.

Figure 3 Synthesize the overall finding
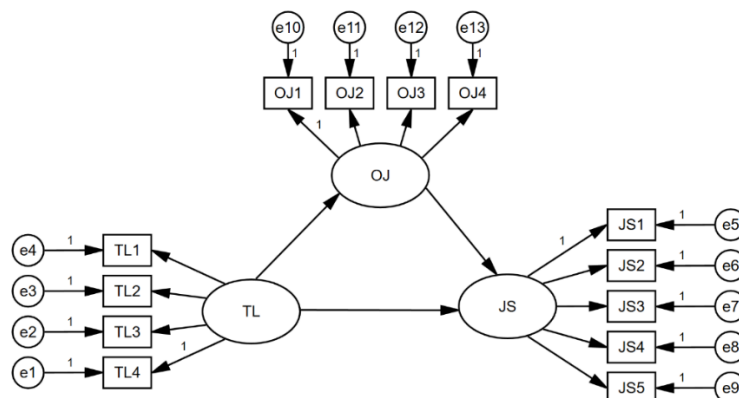
Recommendations

Based on the research findings, the following recommendations were proposed in three key aspects:

1.Recommendation for Policies Formulation:

1）Establish a transparent teacher evaluation and reward system: Schools were advised to implement a transparent performance evaluation system that ensured teachers' performance was linked to compensation and promotion opportunities. The evaluation criteria were recommended to be clear and fair, based on teaching effectiveness, student feedback, and academic contributions. Regular performance evaluations and public feedback of results were to be conducted to enhance teachers' trust in justice.

2）Promote policies for teacher involvement in decision-making: To improve teachers' perceptions of organizational justice and job satisfaction, schools were encouraged to establish mechanisms for teacher participation in management decisions, such as forming teacher committees or regularly holding meetings to collect teachers' opinions. By involving teachers in the policy-making and implementation processes, their sense of belonging and responsibility could be increased.

3）Develop teacher career development policies: Schools were advised to develop long-term career development plans for teachers, including providing regular training, opportunities for further study, and funding for teachers to participate in academic exchanges both domestically and internationally. These initiatives were intended to help teachers continuously enhance their professional skills, meet their needs for self-fulfillment, and ultimately improve overall educational quality.

2.Recommendation for Practical Application:

1）Introduce a 360-degree feedback mechanism: Schools were advised to introduce a 360-degree feedback mechanism, regularly collecting input from teachers, students, parents, and colleagues. This feedback would help teachers gain a comprehensive understanding of their strengths and weaknesses in teaching and management. The results of the feedback were recommended to be used to create personalized career development plans, aiding teachers in enhancing their teaching quality and leadership skills.

2）Design personalized career development plans: Based on Maslow's hierarchy of needs theory, schools were recommended to design personalized career development plans for each teacher, including enhancements in teaching skills, leadership development, and psychological health support. Regular career development assessments were to be conducted to ensure that teachers received adequate support and growth opportunities at every stage of their career.

3）Implement a teacher incentive program: In line with social exchange theory, schools were advised to establish a teacher incentive program, such as annual awards for outstanding teachers or teaching innovation awards, to motivate teachers to pursue excellence in teaching and research. Incentives could be material rewards or non-material rewards, such as public recognition or opportunities for further study, ensuring that teachers' contributions were appropriately recognized.

3.Recommendation for Further Research:

1）Conduct longitudinal studies: It was recommended that future research adopt a longitudinal design to track changes in teachers' job satisfaction under different

transformational leadership styles. By collecting long-term data, researchers could analyze the mediating role of organizational justice over time, providing more comprehensive theoretical support.

2）Investigate the relationship between teachers' needs and organizational justice: Future research was encouraged to delve into the relationship between teachers' personal needs (such as the need for achievement and self-actualization) and organizational justice. This could be explored through surveys and in-depth interviews, revealing the hierarchy of teachers' needs within the organization and identifying effective ways to enhance job satisfaction by meeting these needs.

3）Explore the interaction effects of different types of justice: Researchers were encouraged to further investigate the interaction effects between distributive, procedural, and informational justice, and their combined impact on teachers' job satisfaction. Advanced statistical methods, such as structural equation modeling, were suggested to be employed to analyze the complex relationships among these factors, providing educational managers with more refined management strategies.

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