The Relationship between Transformational Leadership and Preschool Teachers' Job Burnout: the Chain Mediating Effect of Regulatory Emotional Self-efficacy and Work Engagement

Xinyi Cui1,*

1Faculty of Educational Science, Yangzhou University, Yangzhou, China
*Corresponding author

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Abstract: This study aims to explore the relationship between transformational leadership and job burnout among preschool teachers, as well as the chain mediating role of regulatory emotional self-efficacy and work engagement in this relationship. A cross-sectional survey was conducted with a sample of preschool teachers to collect data on transformational leadership, regulatory emotional self-efficacy, work engagement, and job burnout. The results indicate that transformational leadership negatively predicts job burnout among preschool teachers. Regulatory emotional self-efficacy and work engagement were found to partially mediate the relationship between transformational leadership and job burnout, respectively. Moreover, transformational leadership indirectly predicts job burnout through the chain mediation of regulatory emotional self-efficacy and work engagement.

1. Introduction

Preschool teacher burnout is an important issue that affects the quality and effectiveness of preschool education. This phenomenon was first proposed by Freudenberger in the 1970s and has been widely studied in the field of education. Preschool teacher burnout denotes a psychological state characterized by boredom, numbness, and diminished work enthusiasm, induced by factors such as personal attributes, educational objectives, and the teaching environment. This state primarily manifests as emotional exhaustion, depersonalization, and a reduced sense of achievement.

Prolonged burnout not only severely impacts individuals and organizations, causing physical sub-health and psychological issues like depression and anxiety [1], but also results in decreased work performance and increased employee turnover [2]. Especially in the field of preschool education, the existence of preschool teacher burnout may lead to a decline in education quality, and even trigger serious social problems. Preschool teachers, as a member of educators, bear the important task of cultivating the pillars of future society. Their state of burnout directly impacts the quality and effectiveness of preschool education. Persistent work pressure will affect their quality of
life and work performance, making teachers lose passion and interest in their work, resulting in talent loss.

Therefore, understanding the underlying mechanisms of preschool teacher burnout and strategies to prevent and alleviate it has become an urgent issue to address. By studying this problem in depth, we can find effective solutions to improve the quality and effectiveness of preschool education, while also providing a healthier and more rewarding work environment for preschool teachers.

2. Literature review

2.1 Transformational leadership and job burnout

The leadership style is a significant factor influencing employees' psychological state and behavioral performance [3]. Different leadership styles have different effects on employees, thus affecting their job satisfaction, organizational commitment, work performance and turnover intention. Among the many leadership styles, transformational leadership is a widely recognized and studied leadership style, which can stimulate employees' intrinsic motivation, creativity and organizational commitment, thereby improving employees' work efficiency and quality.

The relationship between transformational leadership and burnout has garnered substantial attention among researchers. Generally speaking, transformational leadership is considered to be a leadership style that can reduce the degree of employee burnout [4]. According to the job demands-resources model, job resources refer to material, psychological, social or organizational resources involved in work, which help to reduce work stress and related physical and mental consumption, and promote employee work motivation and performance. Employees tend to experience burnout when they perceive a lack of sufficient resources to meet job requirements. Transformational leadership behaviors typically provide an abundance of job resources, including support, feedback, recognition, and training, which enhance employees' work autonomy and empowerment, and reduce work-related stress and demands. The buffering hypothesis of job resources also mentions that if individuals have autonomy and have high-quality relationships with their superiors, then work load, emotional demands, physical demands will not lead to high levels of burnout [5]. Therefore, this study believes that principals with transformational leadership style are more willing to encourage subordinates to try and explore various new teaching methods to carry out teaching activities autonomously, which enhances preschool teachers' work motivation and enthusiasm, achieves individual autonomy and sense of achievement in work, and thus effectively alleviates burnout.

However, not all studies corroborate the notion that transformational leadership negatively impacts burnout. Some studies have found that transformational leadership has no significant effect on burnout [6]. These inconsistent results may be due to the complex mediating or moderating mechanisms between transformational leadership and burnout, which have not been fully revealed and examined. Therefore, this study tries to explore whether there is a direct or indirect influence relationship between transformational leadership and preschool teacher burnout.

2.2 The potential mediating role of regulatory emotional self-efficacy

Regulatory emotional self-efficacy (RESE) is the individuals' belief in their ability to effectively regulate their emotional responses [7]. As an important psychological resource, RESE can help individuals manage negative emotions and work-related stress, thereby improving their psychological well-being and satisfaction. The relationship between RESE and burnout has also attracted the attention of many researchers. Generally speaking, RESE is considered to be a psychological resource that can reduce the degree of employee burnout [8]. RESE can reduce the
degree of employee burnout by improving their emotional management ability, reducing their emotional exhaustion and depersonalization.

This study posits that RESE not only directly and negatively influences burnout, but also serves as a partial mediator between transformational leadership and burnout. Based on the social identity theory, employees derive their sense of identification with the organization and their self-concept from the behaviors and characteristics of their leaders, which in turn influences their psychological state and performance. Transformational leaders win the trust and respect of employees by showing noble moral qualities and establishing common vision and goals, thereby enhancing employees' sense of identification with the organization and their own value [9]. Identification can improve employees' self-esteem, confidence and self-efficacy, thereby enhancing their RESE. According to the conservation of resources theory, individuals will strive to protect and increase various resources they have, including material, psychological, social or organizational resources. When individuals face resource loss or threat, they will experience stress and negative emotions, which lead to burnout. RESE, viewed as a psychological resource, can affect an individual's evaluation of their resources, namely their belief in their ability to handle stressors. This type of evaluation can affect individual's response to stress sources [10], protect individuals from being attacked by resource loss, and make them more capable of obtaining resources, thus alleviating individual burnout. Therefore, this study hypothesizes that RESE plays a partial mediating role between transformational leadership and preschool teacher burnout.

2.3 The potential mediating role of work engagement

Work engagement is defined as a consistent and positive emotional connection with work, characterized by vigor, dedication, and absorption [11]. It is a positive work attitude, which can improve employees' job satisfaction, organizational commitment, work performance and innovative behavior [12]. Many researchers have also been interested in the relationship between work engagement and burnout. Some researchers believe that burnout and engagement can be seen as two extreme points of a three-dimensional continuum, which are energy, involvement and efficacy. At one end is work engagement, a state of feeling energized and able to effectively enter the work state and get along well with others. This is a positive, efficient work state for both individuals and organizations. At the opposite end is burnout, a state of feeling inefficacious, exhausted and alienated from work and others. Work engagement as a positive psychological state can reduce the degree of employee burnout by improving their work enthusiasm, focus and challenge, reducing their low sense of achievement and ineffectiveness.

This study posits that work engagement not only directly and negatively influences burnout, but also acts as a partial mediator between transformational leadership and burnout. Based on the self-determination theory, the behavior and characteristics of leaders shape employees' intrinsic motivation towards their work, subsequently affecting their psychological state and work performance. Transformational leaders stimulate employees' positive emotions and motivation by expressing confidence in them and encouraging them to transcend themselves, thereby enhancing their intrinsic motivation for themselves and their work. Intrinsic motivation can boost employees' interest and involvement in their work, thus enhancing their work engagement. Work engagement can also help employees cope with difficulties and challenges in work, reduce their burnout degree. Therefore, this study hypothesizes that work engagement plays a partial mediating role between transformational leadership and preschool teacher burnout.
2.4 The potential chain mediating role of regulatory emotional self-efficacy and work engagement

As hypothesized earlier, both RESE and work engagement may individually mediate the relationship between transformational leadership and burnout. However, we posit that RESE also significantly influences work engagement, and together, RESE and work engagement could form a chain mediating the relationship between transformational leadership and burnout. RESE refers to individuals' confidence in their ability to regulate their emotional states, reflecting their competency and autonomy in emotional management. Individuals with high RESE can effectively identify, express and regulate their emotions, thus maintaining a positive and stable emotional state. This emotional state fosters the generation of positive emotional resources, such as pleasure, excitement, and pride, thus enhancing their enthusiasm, focus, and involvement at work [7]. On the contrary, individuals with low RESE have difficulty controlling and regulating their emotions, and are easily disturbed by negative emotions, such as anxiety, depression, fear, etc. This emotional state will consume their psychological resources, such as attention, memory, judgment, etc., thereby reducing their interest, attention and involvement in work [7]. In a study with rural preschool teachers as the research object, the researchers found that preschool teachers' RESE was significantly positively correlated with EI [13]. Teachers with high RESE have confidence and ability in their own emotional regulation, can feel more positive emotions and transform them into positive forces, and are less affected and troubled by negative emotions. This state not only helps to achieve physical and mental harmony, adapt to the work environment, coordinate interpersonal relationships, but also helps to resolve the negative emotions generated in work and maintain a positive work state. Therefore, this study hypothesizes that RESE and work engagement serve as a chain mediator in the influence of transformational leadership on preschool teacher burnout.

2.5 The current study

Existing research has extensively studied the relationship between transformational leadership and teacher burnout, revealing a significant mediating role for RESE and work engagement. However, the current body of knowledge presents notable gaps. Primarily, the integrated or chain-mediated influence of RESE and work engagement has been inadequately investigated. Furthermore, a significant proportion of the current research focuses on middle and high school teachers, thereby neglecting the realm of preschool education. Lastly, the majority of the studies are founded on Western cultural contexts, potentially limiting the applicability of their findings to the educational environment in China.

Thus, this study aims to investigate the relationship between transformational leadership and burnout among preschool teachers, with a focus on the chain mediation of RESE and work engagement. We consider RESE and work engagement as individual internal psychological factors and transformational leadership as an external environmental factor, thereby offering a comprehensive examination of the effects of leadership level and individual psychological factors on preschool teacher burnout. This approach will also facilitate an in-depth exploration of individual burnout from a new perspective. Informed by previous research, we propose a theoretical hypothesis model (Figure. 1) and the following hypotheses:(1) Transformational leadership has a negative correlation with preschool teacher burnout. (2) RESE partially mediates the relationship between transformational leadership and preschool teacher burnout. (3) Work engagement partially mediates the relationship between transformational leadership and preschool teacher burnout. (4) Transformational leadership indirectly predicts burnout via the chain mediation of RESE and work engagement.
3. Methods

3.1 Participants

This study focused on preschool teachers in Jiangsu as the primary participants, encompassing individuals from nine kindergartens. Principals of these kindergartens facilitated the questionnaire distribution process by sharing the questionnaire link among their teachers and encouraging careful completion. Of the 334 questionnaires received, 326 were deemed valid, yielding a validity rate of 97.6%. The respondents included 16 male teachers (4.9%) and 310 female teachers (95.1%). As for teaching experience, 86 teachers (26.4%) had less than 5 years, 121 (37.1%) had between 5 and 10 years, 68 (20.9%) had between 10 and 20 years, and 51 (15.6%) had over 20 years. In terms of educational attainment, 72 participants (22.1%) held a college degree or lower, 250 (76.7%) held a bachelor's degree, and 4 (1.2%) held a master's degree or higher.

3.2 Measures

3.2.1 Transformational Leadership

Transformational leadership was assessed using the Transformational Leadership Questionnaire (TLQ) developed by Li & Shi [14], a variant of Bass's MLQ suitable for Chinese culture. The TLQ comprises 26 items scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). It consists of four subscales: Morale Modeling, Charisma, Visionary, and Individualized Consideration. A higher TLQ total score indicates a higher degree of transformational leadership. In this study, the Cronbach's alpha coefficient for the total scale was 0.96.

3.2.2 Job Burnout

Job burnout among preschool teachers was measured using the Chinese version of the Maslach Burnout Inventory-General Survey (MBI-GS), adapted by Li Chaoping and Shi Kan based on the original Maslach Burnout Inventory [15]. The Chinese MBI-GS includes 15 items scored on a seven-point Likert scale from 0 (never) to 6 (every day). It has three subscales: exhaustion, cynicism, and professional efficacy, with the latter scored inversely. A higher total score on the MBI-GS indicates a higher degree of burnout. The Cronbach's alpha coefficient for the total scale in this study was 0.95.

3.2.3 Regulatory Emotional Self-Efficacy

The Regulatory Emotional Self-Efficacy Scale (RESE) developed by Bandura was used to measure preschool teachers' RESE. The RESE consists of 12 items scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). It features two subscales: perceived
self-efficacy in expressing positive emotions (POS) and in managing negative emotions (NEG). The NEG subscale further divides into two lower-order subscales: perceived self-efficacy in managing depressive distress (DES) and anger arousal (ANG). A higher RESE score indicates stronger regulatory emotional self-efficacy. The Cronbach's alpha coefficient for the total scale in this study was 0.94.

3.2.4 Work Engagement

Work engagement among preschool teachers was measured using the short version of the Utrecht Work Engagement Scale developed by Schaufeli [16]. This scale comprises three dimensions: vigor, dedication, and absorption, with nine items in total, scored on a seven-point Likert scale from 0 (never) to 6 (always). A higher score on the UWES indicates greater work engagement. The overall Cronbach's alpha coefficient for this scale in this study was 0.95.

3.3 Statistical analysis

In this study, all data analyses were conducted using SPSS 26.0. Initially, a common method bias test was performed on the data. This was followed by descriptive statistics and correlation analyses of all variables. Lastly, the mediating effect was tested using Model 6 of the SPSS plug-in Process 4.1.

4. Results

4.1 Common method bias test

Given that the study's sample data were collected via a questionnaire survey, with responses being self-evaluated by preschool teachers, there was a potential for common method bias. In response to this, Harman's single factor test method was employed to conduct a principal component analysis on all data from each variable. The results showed that the explanatory power of the first factor was 27.44%, which is less than 40%. This suggests no common method bias in the study’s data.

4.2 Descriptive statistics and correlation analysis

To gain an understanding of the primary situation of the variables, descriptive statistics and Pearson correlation analyses were executed for each main variable. The statistical data are presented in Table 1. The results revealed that JB negatively correlated with TL (r = -0.206, p < 0.001), RESE (r = -0.212, p < 0.01), and WE (r = -0.259, p < 0.001). TL positively correlated with RESE (r = 0.286, p < 0.001) and WE (r = 0.208, p < 0.001). Moreover, RESE positively correlated with WE (r = 0.191, p < 0.01).

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.TL</td>
<td>3.91</td>
<td>0.79</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.JB</td>
<td>2.12</td>
<td>1.23</td>
<td>-0.206***</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.RESE</td>
<td>3.89</td>
<td>0.76</td>
<td>0.286***</td>
<td>-0.212**</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>4.WE</td>
<td>4.00</td>
<td>1.06</td>
<td>0.208***</td>
<td>-0.259***</td>
<td>0.191**</td>
<td>—</td>
</tr>
</tbody>
</table>

**p<0.01.
***p<0.001.
4.3 The chain mediating effects analyses

To explore the chain mediation effect of RESE and work engagement between transformational leadership and job burnout, this study used SPSS plug-in PROCESS4.1 (Model 6) to test the mediating effect.

The results presented in Table 2 indicate a significant total effect of TL on JB ($\beta = -0.269, p < 0.01$). After introducing the mediating variable, TL was found to have a significant positive influence on both RESE ($\beta = 0.286, p < 0.001$) and preschool teachers’ WE ($\beta = 0.237, p < 0.005$). Furthermore, the direct effect of TL on JB was significant ($\beta = -0.161, p < 0.05$). Additionally, RESE significantly contributed to preschool teachers’ WE ($\beta = 0.204, p < 0.05$) and had a substantial impact on their JB ($\beta = -0.179, p < 0.05$). Lastly, WE was found to be a significant negative predictor of preschool teachers’ JB ($\beta = -0.191, p < 0.001$).

Table 2: Regression analysis among variables in the chain model

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Predictor variable</th>
<th>R</th>
<th>$R^2$</th>
<th>F</th>
<th>$\beta$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>JB</td>
<td>TL</td>
<td>0.206</td>
<td>0.042</td>
<td>14.331***</td>
<td>-0.269</td>
<td>-3.786**</td>
</tr>
<tr>
<td>RESE</td>
<td>TL</td>
<td>0.286</td>
<td>0.082</td>
<td>28.891***</td>
<td>0.286</td>
<td>5.375***</td>
</tr>
<tr>
<td>WE</td>
<td>RESE</td>
<td>0.249</td>
<td>0.062</td>
<td>10.687***</td>
<td>0.204</td>
<td>2.546*</td>
</tr>
<tr>
<td>WE</td>
<td>TL</td>
<td>0.329</td>
<td>0.108</td>
<td>13.025***</td>
<td>-0.179</td>
<td>-2.463*</td>
</tr>
<tr>
<td>JB</td>
<td>RESE</td>
<td>-0.051</td>
<td></td>
<td></td>
<td>-0.304</td>
<td>-0.018</td>
</tr>
<tr>
<td>JB</td>
<td>WE</td>
<td>-0.045</td>
<td></td>
<td></td>
<td>-0.269</td>
<td>-0.012</td>
</tr>
<tr>
<td>JB</td>
<td>TL</td>
<td>-0.011</td>
<td></td>
<td></td>
<td>-0.026</td>
<td>-0.002</td>
</tr>
</tbody>
</table>

Note. Indirect effect1 was TL→RESE→JB, Indirect effect2 was TL→WE→JB, Indirect effect3 was TL→RESE→WE→JB.

To investigate the individual mediating effects of RESE and WE and their chain mediating effects, the study conducted a mediating effect test (Figure 2 and Table 3). The results showed that the Bootstrap95% confidence interval of the single mediating effect of RESE was [-0.101, -0.009], indicating that RESE serves as a mediator in the influence of TL on JB, and the path of TL → RESE → JB was established, with a mediating effect value of -0.051. Similarly, the Bootstrap95% confidence interval for the singular mediating effect of WE was [-0.087, -0.012], indicating that WE
also mediates the impact of TL on JB, and the indirect effect path of TL → WE → JB was established, with a mediating effect value of -0.045. Lastly, the Bootstrap 95% confidence interval for the chained mediating effect of RESE and WE was [-0.026, -0.002], indicating that the indirect effect path of TL → RESE → WE → JB was established, with a mediating effect value of -0.011.

Note. *p < 0.05.; **p < 0.01.; ***p < 0.001.

Figure 2: The chain mediating effect of RESE and WE on TL and JB.

5. Discussion

This study investigates the influence of transformational leadership on preschool teacher burnout, examining the underlying mechanisms of this impact and utilizing a multilevel model to analyze data from teachers across various kindergartens. We discovered that transformational leadership could both directly and indirectly reduce teacher burnout through a chain mediation effect of RESE and work engagement. The following sections elaborate on these results.

At the beginning, this study discovered that transformational leadership has a direct and negative influence on teacher job burnout, a finding that aligns with previous research. Transformational leadership fosters an organizational environment endorsing innovation and ethical practices, inspiring preschool teachers to independently experiment with novel methods and develop personally while accomplishing tasks. Principals' encouragement and recognition, coupled with their attention and support, enhance teachers' psychological empowerment and organizational commitment, thus alleviating burnout. Moreover, the principal's leadership style and role modeling provide an organizational scaffold, leading teachers to perceive their work environment as positive, challenging, and opportunity-filled [17], subsequently decreasing burnout.

Furthermore, this study demonstrates the significant role of RESE as a mediator between transformational leadership and job burnout. As the transformational leadership level increases, so does the RESE, subsequently decreasing job burnout. This finding aligns with prior studies like research on self-efficacy's mediating role between transformational leadership and job satisfaction, and study on the same mediator's impact on employee well-being. Transformational leadership's ability to diminish job burnout, through improving RESE, is possibly due to its capacity to boost employees' confidence and emotional management skills via positive reinforcement, encouragement, and trust. Consequently, employees become more adept at handling work-related stress and challenges, minimizing negative emotions, and maintaining a positive outlook [18], thereby avoiding burnout symptoms such as emotional exhaustion, depersonalization and low personal accomplishment.

Then, this study suggests that work engagement plays a partial mediating role between transformational leadership and job burnout. This infers that work engagement is a crucial intermediary that can channel the impact of transformational leadership on job burnout. As per the job demands-resources model, job resources encompass physical, psychological, social, or
organizational factors that facilitate the attainment of work goals, alleviate job-induced stress, and foster personal growth. Transformational leadership, serving as a critical job resource, can fuel preschool teachers’ association and engagement with their job roles and objectives by providing vision, motivation, individualized attention, and intellectual stimulation. This enhances their vigor, dedication, and absorption in their work, thereby driving them to enjoy the work process and proactively complete their tasks. Concurrently, work engagement can mitigate the onset and progression of job burnout, as those engaged in their work derive a greater sense of achievement and satisfaction. This sense of achievement, in turn, motivates them to invest more passion and energy, cultivating a virtuous cycle [19]. Hence, this study’s findings imply that transformational leadership fosters preschool teachers’ work engagement by offering job resources, thus mitigating job burnout.

Moreover, we observed that RESE and work engagement together form a chain mediation effect. Transformational leadership can enhance work engagement by improving RESE. Simultaneously, as a crucial personality trait, emotional regulation self-efficacy can amplify the impact of transformational leadership on work engagement. This supports the notion that RESE acts as a significant mediator, transferring the effect of transformational leadership on work engagement, aligning with previous studies. Individuals possessing higher RESE demonstrate increased resilience, superior social adaptability, and elevated self-evaluation and self-confidence, enabling them to handle setbacks or difficulties more positively. Thus, transformational leadership can impact job burnout through the cascading mediation effect involving RESE and work engagement. This forms a mediation pathway: "TL → RESE → WE → JB". This finding offers a fresh perspective for understanding the intricate relationship between transformational leadership and job burnout, and introduces a new concept for improving preschool teachers’ RESE and work engagement.

The limitations of this study include its cross-sectional research design, which hinders the in-depth exploration of causal relationships between variables. Future research could employ longitudinal studies to more thoroughly investigate the mechanisms through which transformational leadership influences preschool teachers' job burnout, thus providing a more robust theoretical basis for reducing such burnout. Another limitation is the use of questionnaire surveys for data collection, which may introduce self-report bias. Subsequent studies might benefit from adopting more varied data collection techniques, including in-depth interviews or observations, to ensure a more comprehensive and accurate data set. Finally, this study primarily focuses on the group of preschool teachers. Expanding the research scope to include teachers from other educational stages in future studies could help test the generalizability of this study's conclusions.

Despite the limitations of a cross-sectional research design and potential self-report bias, this study holds both theoretical and practical significance. It expands the application of transformational leadership theory and emotional regulation self-efficacy theory in the field of preschool education. It uncovers the mitigating effect and internal mechanism of transformational leadership on preschool teachers' job burnout, providing a novel perspective for understanding the dynamic process of preschool teachers’ job burnout. This study also provides effective leadership styles, psychological resources, and intervention measures to alleviate preschool teachers’ job burnout, improve their job satisfaction, and well-being. Future research should consider using more diversified data collection methods, such as in-depth interviews or observations, and expanding the research scope to teachers of other educational stages.

In conclusion, our research offers valuable insights into the influence of transformational leadership on preschool teacher burnout and its operational mechanism. It provides a theoretical foundation and practical recommendations for kindergarten principals, preschool teachers, and preschool education administrators to alleviate teacher burnout in practice. We hope that future
research will further enrich and expand the theoretical and empirical understanding of this field.

References