This research investigated one possible mechanism of a dual-drive model integrating external job resources and internal self-leadership, aiming at developing innovative strategies for improving teacher engagement. An exploratory sequential design, one of the mixed-methods approaches, was adopted. Five private universities in Hunan Province, China, were selected for data collection, and the sample of instructors in the current study is 356. The qualitative data analysis results revealed that there was still significant room for improvement in the five universities. Advanced statistical analyses demonstrated the significant impacts of seven job resources and six self-leadership strategies on teacher engagement. The interactive effect between job resources and self-leadership on teacher engagement was also verified to be statistically significant. Accordingly, the dual-drive model was conducted, which highlighted the role of job resources as the external force and self-leadership strategies as the internal drive. The model consisted of 13 significant factors, based on which innovative strategies were finally developed for teacher engagement with experts’ validation.

Keywords: dual-drive model; teacher engagement; job resources; self-leadership

Introduction

Although educational researchers have long paid attention to teacher stress and burnout (Chang, 2009), there has been a recent focus on positive outcomes based on performance in
educational settings (Bakker et al., 2008). Within this approach, engagement has been a significant dimension in the field of educational administration, capturing individuals’ experiences and perceptions of their work activities (Bakker et al., 2014).

Thus, teacher engagement, understood as the active involvement and enthusiasm for teaching, has been an increasing focus on teacher engagement among educational researchers and policymakers (Greenier et al., 2021). In the context of higher education internationalization and educational system reforms, teacher engagement plays a vital role in improving the quality of teaching and educational services.

Education systems face the challenge of promoting greater effectiveness and reducing attrition rates among teachers (Granziera & Perera, 2019). Despite the emphasis on educational quality, there remains a common shortage of qualified teachers worldwide (Hong, 2012). Teachers are not fully engaged in their teaching-related activities (Park et al., 2016), and many of them experience sustained stress, and some even suffer from depression (Titheradge et al., 2018).

Gallup’s surveys of the American workforce found that only 30% of teachers surveyed felt engaged at work, with a majority identified as disengaged or actively not engaged (Hastings & Agrawal, 2015). The trend of decreasing engagement over the years is also evident, with the engagement rate dropping from 35% in the first year to 28% by years 3-5 (Gallup, 2014). MetLife’s survey reported the lowest levels of teacher engagement and satisfaction in 25 years (MetLife, Inc., 2013).

The landscape of faculty work has undergone significant changes due to higher education reforms in China, resulting in increased workload stress for instructors (Han et al., 2020). There is a growing demand for effectiveness and productivity to enhance the competitiveness of Chinese higher education institutions (Tian & Lu, 2017). “The Outline of the National Medium- and Long-term Education Reform and Development Plan (2010–2020)” by the Ministry of Education of the People’s Republic of China emphasized the importance of enhancing teacher engagement and making teaching performance the primary criterion for faculty assessment in higher education institutions. This shift has re-evaluated the status and value of instructors during their teaching work, highlighting their central role and engagement in educational reforms at universities (Yin, 2017).

**Research problems and hypotheses**

In Hunan Province, China, private education has made significant improvements and formed well-known private school brands with good reputations.

However, challenges related to teaching staff, career development opportunities, and educational issues have led to a likelihood of disengagement among instructors and high turnover rates (Wang & Wang, 2019). To address these challenges and retain talent, teacher engagement becomes crucial for private universities. Engaged teachers who invest their time, energy, and emotions into their teaching and possess positive qualities like insight and resilience are essential for coping with teaching-related tasks and personal development. In the competitive era of higher education, having an engaged teaching faculty is necessary for private universities to survive and sustainably develop (Xu & Zhang, 2020). The challenge of teacher engagement in China highlights the need for strategies to address the issue.

Since the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), a leading framework for explaining work engagement, offers a comprehensive perspective for the
study to investigate the relationships between job resources, self-leadership, and teacher engagement, this research, guided by the JD-R model, aimed to propose innovative strategies for teacher engagement in private universities in Hunan Province based on a dual-drive model integrating job resources and self-leadership as complementary factors, which could offer valuable insights into the dynamics of teacher engagement and provide practical recommendations to promote and sustain high levels of engagement among instructors. To pursue this line of inquiry, the following research objectives should be fulfilled:

1. To explore the expected teacher engagement, job resources, and self-leadership in private universities.
2. To assess the current teacher engagement, job resources, and self-leadership in private universities in Hunan Province, China.
3. To examine the relationship between job resources, self-leadership, and teacher engagement in private universities in Hunan Province, China.
4. To develop strategies for teacher engagement based on the dual-drive model in private universities in Hunan Province, China.

Previous research has consistently demonstrated a positive correlation between job resources and work engagement (Hakanen et al., 2006; Bakker & Demerouti, 2008; Christian et al., 2011).

Thus far, there has been an excessive focus on driving educational reform and improvement through external mandates and policies (Han et al., 2020), while successful organizations typically look inward to progress (Coffman & Gonzalez-Molina, 2002).

Indeed, personal resources have gained attention as important factors that influence work engagement. Self-leadership, as a skill dimension for leading one’s own thoughts, behaviors, and motivations, falls within the domain of positive psychology and has been widely studied and applied to improve professional work. Engaging in self-leadership practices can enhance individuals’ dedication to job tasks and improve their work performance (Jooste & Frantz, 2017; Goldsby et al., 2021). Based on the teacher engagement theory (Klassen et al., 2012), the JD-R theory (Demerouti et al., 2001), and the self-leadership theory (Manz & Neck, 2004), the conceptual framework for this research was formed (see Fig. 1).

Within this framework, there were mainly two hypotheses:

H1: Job resources significantly impact teacher engagement in private universities in Hunan Province, China.

H2: Self-leadership strategies significantly impact teacher engagement in private universities in Hunan Province, China.

**Literature review**

Through a systematic synthesis of literature reviews, the researcher explored the components of the three variables (teacher engagement, job resources, and self-leadership) specifically in the context of education institutions.
Teacher engagement

Four dimensions of teacher engagement were identified based on the analysis of documents on teacher engagement. The construct of teacher engagement was expanded by integrating two social perspectives of engagement with colleagues and students.

Cognitive Engagement

The commonest dimension for either work engagement or teacher engagement found in literature was cognitive engagement. It indicates the degree of teachers’ active participation in and energetic devotion to teaching-related tasks, featuring openness, connections, and completeness in the work role, which keeps in convergence with the two dimensions of vigor and absorption in Schaufeli et al.’s (2002) conceptualization.
Emotional Engagement
Likewise, several pieces of literature indicate the emotional dimension. Engagement is emotional with persistent cognitive-physical duration, and dedicated employees have more positive feelings about their work and more positive emotional experiences while accomplishing work-related tasks. Hence, emotional engagement, as a sense of experiencing passion, inspiration, pride, and significance from positive involvement in the challenging work, refers to teachers’ investment in and responses to their work on the emotional facet, generally positive, which is in correspondence with the dedication dimension described by Schaufeli et al. (2002).

Social Engagement: Students
Social engagement with students denotes instructors’ perceptions of their concern for, connection to, and interaction with students. It is one of the novel insights that addresses the problem in the existing model of neglecting teachers’ efforts in establishing social relationships within school settings, which is essentially central to teachers’ work. This dimension draws lessons from research on the satisfaction of basic psychological needs in school contexts (Klassen et al., 2012), representing teachers’ contribution of energy to interacting with students.

Social Engagement: Colleagues
Similarly, social engagement with colleagues demonstrates instructors’ perceptions of their concern for, connection to, and collaboration with colleagues. It is another novel insight that focused efforts to establish interpersonal relationships should be included in the teacher engagement model. This dimension is based on the perspective of self-determination theory, representing teachers’ energetic investment in cooperating with other instructors at school (Klassen et al., 2013).

Job resources
Eight job resources were identified as expected components that can enhance teacher engagement at private universities. These job resources can be categorized into three levels: psychology, organization, and society.

Value consonance
As a dimension of person-organization fit (P-O fit), which indicates the compatibility of individuals with their surroundings when the needs of one entity are satisfied or similar features are shared on both sides, value consonance refers to the degree to which instructors feel that they share similar prevailing norms and values with the universities they are teaching at. In other words, it is teachers’ feelings of the consistency between their values, the prevailing norms and goals, and those at the school that have been shown to predict teacher engagement (Skaalvik & Skaalvik, 2011).

Feeling of belonging
Belonging was often conceptualized as a sense of relatedness and self-worth. It is perceived by individuals as they interact with others, a group, or a system, resulting from a feeling of being needed, accepted, respected, valued, or harmonious with the group and receiving support from other members.
Teachers’ feelings of belonging can be understood as the degree of teachers’ feelings about being personally involved, accepted, respected, and supported by others in the school context (Ibrahim & Zaatari, 2020), which is a sense of psychological attachment increasing instructors’ passion for daily teaching.

**Teacher autonomy**

Autonomy is a form of empowerment, referring to employees being given some level of rights (freedom or independence) in determining their work. Teacher autonomy concerns the freedom of teachers, based on their educational values and beliefs, to set teaching goals, employ educational strategies, and choose teaching methods under the standards of the national curriculum (Skaalvik & Skaalvik, 2014), comprising four major areas of autonomy: task content, work arrangement, technique application, and teamwork.

**Positive performance feedback**

Positive performance feedback reflects information on past behaviors and results established by established standards to create an environment of high expectations in which instructors self-examine their teaching practices and make adjustments for professional growth. This kind of feedback focuses on teachers’ exceptional job performance in teaching, identifies their strengths based on talent, knowledge, or skills, and delivers positive feedback on how well they do and suggestions on what aspects they can improve to encourage further utilization of these strengths for future performance (Aguinis et al., 2012).

**Learning and development opportunities**

Learning and development opportunities are the possibility of and the degree to which instructors perceive they can be provided with opportunities for learning continuously and performing challenging tasks. These opportunities facilitate active countermeasures and stimulate the use of existing skills as well as the updating of new skills. When teachers are offered training or learning opportunities tailored to the needs of achieving their professional goals, their sense of competence and confidence in teaching-related tasks increases, which leads to more teacher engagement (Klassen et al., 2012).

**Supervisory support**

Supervisory support, one of the dimensions of teachers’ perception of school context, is “teachers’ feelings of having cognitive and emotional support from the school leadership, that they could ask for advice, and that their relation to the school leadership was one of mutual trust and respect” (Skaalvik & Skaalvik, 2009). For supervisors, their mission is to highlight the social side of their role by providing educational support; employees’ interactions with a supervisor and the attitudes of the supervisor can change the whole atmosphere in the workplace.

**Supportive colleagues**

Supportive colleagues refer to those who provide help through both verbal and nonverbal behaviors to reduce the uncertainty of other faculty, forming a relationship, or a certain situation that might be informational, emotional, or instrumental, such as constructive advice, teaching materials, professional guidance, or administrative intervention (Sias, 2009); they serve as a strong resource for meeting the demands of the job.
INNOVATIVE STRATEGIES FOR TEACHER

Taking on the heavy responsibilities that may bring about job strain, teachers usually turn to their co-workers rather than friends or family members outside the school.

**Student motivation**

Student motivation is one of the most essential factors that should be taken into consideration for achieving quality education, indicating students’ drive to engage, learn, work effectively, and achieve their potential at school (Martin, 2006). It concerns the persistence with which they pursue learning activities, the intensity of their engagement in them, and their performance on them (Wigfield et al., 2015). When student motivation is generated in the learning process, teachers will experience a greater sense of success.

**Self-leadership**

There are three categories of cognitive and behavioral strategies within the practice of self-leadership that can positively influence teacher engagement, comprising a total of nine components.

**Self-observation**

Serving as a monitor to examine one’s behaviors, self-observation raises self-awareness through supervising the discrepancies between the current state and desired standards and identifying whether a certain behavior is positive, desirable, and necessary or not, thus making better decisions on the next action, which helps to be effective in goal setting. Hence, in the process of goal pursuit, it is an important step before the accomplishment of challenging or unpleasant tasks (Pavlovic, 2019).

**Self-goal setting**

Self-goal setting is taking advantage of goals laid down to energize and direct behaviors necessary for achieving high performance. People can create a deadline for a desired end state or formulate accurate long-term and short-term goals so as to be more motivated and powerful (Uzman & Maya, 2019). Therefore, it is the most critical aspect of self-leadership that should be encouraged to improve performance.

**Self-reward**

The self-reward strategy is to recognize and congratulate oneself in one’s way after a good performance, simple like mental praises or tangible rewards, for stimulating efforts to realize behavioral changes both targeted and systematic (Houghton et al., 2012). No matter how little progress or achievement is made, it is certain to be of some value for individuals to be given rewards for contingencies.

**Self-punishment**

Self-punishment is the strategy used to control and reshape undesired behaviors toward more positive directions through constructively examining or evaluating one’s failures and unproductive actions (Bum, 2018).

It should be the introspective examination of undesirable behaviors in a positive frame, without applying harsh and unrealistic self-criticism that will facilitate the recovery of individuals’ states and result in feelings of guilt or emptiness.
**Self-cueing**

To encourage or ensure constructive behaviors, self-cueing is an effective means of manipulating a concrete environment to diminish undesirable and unproductive behaviors (Boss & Sims, 2008). It involves physical changes in the environment that help focus attention on the task at hand and the achievement of a goal, such as external cues such as reorganizing the office, rearranging the placement of desks, or using any kind of memory aid for the achievement of a goal, like to-do lists, inspirational wall hangings, motivational posters, screensavers, or other types of reminders.

**Evaluating beliefs and assumptions**

Evaluating beliefs and assumptions, namely self-improvement of belief systems, means individuals’ self-monitoring of thought patterns for replacing dysfunctional beliefs and assumptions, which lead to the thought processes of chronic dysfunction, with more rational ones for constructive thought patterns. If dysfunctional thoughts are reshaped into functional thinking patterns, dysfunctional thought processes can be minimized, resulting in individuals being engaged in cognitive processes (Houghton et al., 2012).

**Mental imagery**

Mental imagery is the process of visualizing a successful performance before physical and muscular movements occur. Such a technique for mental preparation helps individuals be more inclined to achieve success when performing the actual task through imaging and animating the successful execution of a task before it is finished (Neck & Manz, 2010).

**Self-talk**

If a person tells himself or herself covertly cognitive self-evaluations, self-responses, or reactions to the surroundings, he or she is conducting self-talk (Neck et al., 2019). After careful analysis and specific awareness of the internal dialogues, negative emotional states that produce a negative influence on cognition can be eliminated, and more constructive, rational, and optimistic states come into being.

**Natural reward strategies**

Natural reward strategies are emotional strategies that highlight the satisfying aspects of a task while ignoring the unpleasant task features to increase the sense of competence and self-determination through seeking pleasant work activities (Uzman & Maya, 2019), among which the subcategory of constructing more enjoyable features for the task is to cultivate the ability to construct more pleasurable qualifications for an activity to be accomplished so that the activity itself becomes rewarding, and reshaping perceptions of the task involves reshaping perceptions by getting rid of the unpleasant aspects of the task and focusing attention again on the inherently rewarding aspects.

**Methodology**

The research entailed an exploratory sequential design, one of the core types of mixed methods to explore a phenomenon, develop an instrument, and propose solutions to the research problem (Creswell, 2012), which was necessary to gather both quantitative and qualitative data required to achieve the research objectives of the study.
INNOVATIVE STRATEGIES FOR TEACHER

Such an approach was considered to have a more comprehensive understanding of the research problem under investigation due to its ability to compensate for method weaknesses and balance biases (Creswell & Plano Clark, 2017). Accordingly, the research process of the current study consisted of four major stages: component exploration, questionnaire design, modeling, and strategy development.

The qualitative data was collected by means of literature reviews and interviews. A broad array of literature relevant to the research topic in the educational context (published between 1980 and 2022) was consulted to provide insight into aspects that needed to be probed for the research. Semi-structured interviews with administrators from sample universities were for collecting detailed views and seeking evidence from the administrators’ perspective to help validate as well as refine the survey results.

The quantitative data was collected via a self-complied questionnaire from 305 out of 356 full-time instructors in the five universities (85.7% return) that were identified with the purposive sampling technique, fulfilling the criterion of being non-government academic HEIs qualified to offer degree programs after 2016. To ensure the reliability of the research instrument, a pilot test was conducted, for which an acceptable overall Cronbach’s alpha coefficient was obtained at .93.

The data analysis methods used varied depending on the nature of the research objectives. For research objective one, the method employed was a systematic review of literature, following a structured process consisting of three steps: “theory and rationales,” "conceptualizations,” and "operationalization." For research objective two, means and standard deviation were utilized to assess the current levels of the variables.

When examining the relationship between variables, a two-way ANOVA was first used to identify whether there were significant differences in teacher engagement based on variations in job resources and self-leadership. Then, multiple regression analysis followed, which allowed for the prediction and evaluation of the extent to which job resources and self-leadership positively impacted teacher engagement.

To validate the strategies developed based on the dual-drive model, the researcher sought feedback from a panel of seven experts for enhancing the credibility and effectiveness of the strategies in promoting teacher engagement.

Findings and discussion

Corresponding to each sub-objective, the findings were presented as follows:

Synthesis results of literature

Through a systematic synthesis of 214 materials, the researcher explored the components of the three variables, which focused on extracting information and data related to the themes of teacher engagement, job resources, and self-leadership. 81 documents were related to teacher engagement, 79 articles and books were centered around job resources, and 54 articles discussed self-leadership.

Teacher engagement

The components of teacher engagement and their respective percentages are based on the synthesis of literature reviews. Cognitive engagement accounts for 29.62% of the overall engagement, highlighting the significance of teachers’ cognitive involvement in teaching.
Emotional engagement is the most substantial component, representing 37.03% of the engagement. The social dimensions of engagement, involving both students and colleagues, make up 25.92% and 14.81%, respectively, emphasizing the importance of social interactions in teacher engagement.

**Job resources**

The following percentages may betoken the importance of each job resource for enhancing teacher engagement at private universities in the Hunan Province of China (refer to Table 4.6 for detailed information): Value Consonance (13.92%), Feeling of Belonging (26.58%), Teacher Autonomy (27.85%), Positive Performance Feedback (17.72%), Learning and Development Opportunities (11.39%), Supervisory Support (12.66%), Supportive Colleagues (15.19%), and Student Motivation (10.13%).

**Self-leadership**

The researcher identified three categories of self-leadership strategies summarized above, totaling nine components, for faculty members at private universities in Hunan Province. The result just fell in line with the theory of self-leadership proposed by Manz and Neck (2004). The highest percentage is assigned to “Evaluating Beliefs and Assumptions” with 42.59%, indicating its expected significance in self-leadership practices. On the other hand, “Focusing on Natural Rewards” has the lowest percentage of 10.13%, suggesting that further attention and exploration may be required in this area.

**Assessment of the current levels**

To assess the current teacher engagement, job resources, and self-leadership in private universities in the Hunan Province of China, descriptive analysis was first employed, followed by one-on-one interviews with administrators as a supplement.

**Descriptive statistics results**

Mean and standard deviation analyses were conducted on the quantitative data collected for each variable. The results for the overall current levels of the three variables are presented in Tab. 1.

<table>
<thead>
<tr>
<th>Question No.</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-16</td>
<td>Teacher Engagement</td>
<td>2.98</td>
<td>.61</td>
<td>Moderate</td>
</tr>
<tr>
<td>17-40</td>
<td>Job Resources</td>
<td>3.13</td>
<td>.50</td>
<td>Moderate</td>
</tr>
<tr>
<td>41-75</td>
<td>Self-Leadership</td>
<td>3.24</td>
<td>.47</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

The instructors agreed on the variable of teacher engagement, with an overall moderate mean score. The lower mean scores in the dimensions of emotional engagement (M = 2.48) and social engagement (M = 2.51) indicate that instructors at the private universities in Hunan Province may need to focus on enhancing their emotional connection with their work and fostering stronger relationships with their students.
Addressing these areas of improvement helps create a more engaging and supportive learning environment for both instructors and students in private universities in Hunan Province.

The result of overall job resources indicates that instructors in private universities in Hunan Province perceive a moderate level of Among the eight factors assessed, seven of them were reported at moderate levels, while one factor, supportive colleagues, was reported at a high level \((M = 3.76)\), indicating that instructors perceive a relatively high level of support and collaboration among their colleagues; however, there is still room for further improvement in a supportive collegial environment.

The factor with the lowest mean score is Feeling of Belonging \((M = 2.75)\), highlighting the importance of creating a supportive and inclusive work environment where instructors feel connected and valued.

The findings suggest that there is a need to address the shortage of certain job resources and improve the overall level of job resources available to instructors.

The overall mean score for self-leadership is at a moderate level, as shown in Tab. 1. This implies that instructors in the five sample universities may need further development and improvement in their self-leadership. Among the self-leadership strategies assessed, self-reward and mental imagery received mean scores higher than 3.50, indicating a relatively stronger engagement in these strategies.

Two other factors, self-cueing and evaluating beliefs and assumptions, received mean scores lower than 3.0, suggesting a lower engagement in these strategies. The remaining self-leadership strategies fell within the middle range, indicating a moderate level of engagement.

**Synthesis results of interviews**

From the administrators’ perspective, supportive colleagues and learning and development opportunities were the most available job resources at their universities. Other job resources, such as value consonance, a feeling of belonging, and student motivation, were reported to be lacking due to the nature and specific circumstances of private universities in China. The administrators also highlighted that instructors were not proficient in self-leadership strategies, particularly self-observation, self-cueing, and evaluating beliefs and assumptions.

These findings align with the statistical analysis results, except for self-observation. The administrators mentioned that instructors rarely engaged in self-reflection or self-observation, preferring peer reviews and supervisor ratings as the primary approaches to teacher evaluation. This emphasis on external evaluation methods may undermine teacher autonomy.

In addition to the components identified based on the dual-drive model, administrators mentioned other significant actions taken at their universities, such as the establishment of professional learning communities, benchmarking, and sharing of the university’s vision, mission, and goals (VMG).

They also identified several effective strategies for improving teacher engagement, including fostering a strong school culture, promoting collaboration, encouraging self-leading, supporting autonomous development, and taking reflective actions.

The interview results provided a broad insight into the development of strategies for improving teacher engagement.
Advanced statistic analysis results
To examine the relationship between job resources, self-leadership, and teacher engagement in private universities in Hunan Province, China, two kinds of advanced statistical analysis were applied.

Two-way ANOVA
From the results of a two-way ANOVA (see Tab. 2), it can be observed that both job resources (JR) and self-leadership (SL) have a significant impact on teacher engagement.
The p-value for job resources is .000, indicating a statistically significant effect, whiles the p-value for self-leadership is .002, also indicating a significant effect. It suggests that both job resources and self-leadership play a role in influencing teacher engagement in private universities in Hunan Province. Further, the interaction effect between job resources and self-leadership, represented by the JR * SL term, was also found to be statistically significant with a p-value of .025. It means that the combined impacts of job resources and self-leadership on teacher engagement are different from what would be expected based on the individual effects of these factors.
The interaction effect implies that the relationship between job resources and teacher engagement may vary depending on the level of self-leadership exhibited by instructors and vice versa.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>111.829*</td>
<td>271</td>
<td>0.413</td>
<td>4.955</td>
<td>.000</td>
</tr>
<tr>
<td>Intercept</td>
<td>1259.645</td>
<td>1</td>
<td>1259.645</td>
<td>15126.479</td>
<td>.000</td>
</tr>
<tr>
<td>JR</td>
<td>25.168</td>
<td>54</td>
<td>0.466</td>
<td>5.597</td>
<td>.000</td>
</tr>
<tr>
<td>SL</td>
<td>14.309</td>
<td>68</td>
<td>0.210</td>
<td>2.527</td>
<td>.002</td>
</tr>
<tr>
<td>JR * SL</td>
<td>21.749</td>
<td>145</td>
<td>0.150</td>
<td>1.801</td>
<td>.025</td>
</tr>
<tr>
<td>Error</td>
<td>2.748</td>
<td>33</td>
<td>0.083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2391.672</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>114.577</td>
<td>304</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R squared = .976 (adjusted R squared = .779)
*Sig.<.05

Multiple regression
Multiple regression was then used to predict and weigh the relationship between predictors and the dependent variable, namely identifying the job resources and the self-leadership that can positively impact teacher engagement. During the process of data analysis, the researcher tested the degree of job resources’ and self-leadership strategies’ impacts on teacher engagement in the five sample universities.
Tab. 3–4 show the results of the multiple regression analysis, which aimed to examine the impacts of job resources and self-leadership strategies on teacher engagement in private universities in Hunan Province.
The analysis helped in predicting the relationship between the predictors and the dependent variable and determining the significance of these relationships.

The components of job resources were examined individually as predictors of their impacts on teacher engagement. The results in Tab. 3 show that the R-value is 0.779, which indicates the correlation between job resources and teacher engagement at the five universities is 0.779. The R square is 0.607, which can predict 60.7% of this model variance, meaning that job resources could predict 60.7% of teacher engagement.

According to the data analysis results, seven of the predictors had significant impacts on teacher engagement in private universities in Hunan Province, China.

The results indicate that value consonance has the largest significant impact on teacher engagement, followed by supervisory support, positive performance feedback, student motivation, a feeling of belonging, teacher autonomy, and supportive colleagues.

Table 3 - Multiple regression results of job resources’ impact on the DV (N=305)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.779</td>
<td>.607</td>
<td>.597</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Teacher Engagement  
b. Predictors: (Constant), Value Consonance, Feeling of Belonging, Teacher Autonomy, Positive Performance Feedback, Learning and Development Opportunities, Supervisory Support, Supportive Colleagues, Student Motivation

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>69.581</td>
<td>8</td>
<td>8.698</td>
<td>57.217</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>44.996</td>
<td>296</td>
<td>.152</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>114.577</td>
<td>304</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-.192</td>
<td>.146</td>
<td>-1.313</td>
<td>.109</td>
</tr>
<tr>
<td>Value Consonance</td>
<td>.164</td>
<td>.032</td>
<td>5.138</td>
<td>.000*</td>
</tr>
<tr>
<td>Feeling of Belonging</td>
<td>.121</td>
<td>.031</td>
<td>3.909</td>
<td>.000*</td>
</tr>
<tr>
<td>Teacher Autonomy</td>
<td>.088</td>
<td>.032</td>
<td>2.752</td>
<td>.006*</td>
</tr>
<tr>
<td>Positive Performance Feedback</td>
<td>.146</td>
<td>.031</td>
<td>4.632</td>
<td>.000*</td>
</tr>
<tr>
<td>Learning and Development Opportunities</td>
<td>.065</td>
<td>.034</td>
<td>1.903</td>
<td>.058</td>
</tr>
<tr>
<td>Supervisory Support</td>
<td>.162</td>
<td>.033</td>
<td>4.856</td>
<td>.000*</td>
</tr>
<tr>
<td>Supportive Colleagues</td>
<td>.068</td>
<td>.032</td>
<td>2.095</td>
<td>.037*</td>
</tr>
<tr>
<td>Student Motivation</td>
<td>.135</td>
<td>.033</td>
<td>4.156</td>
<td>.000*</td>
</tr>
</tbody>
</table>

a. Dependent variable: teacher engagement
Tab. 4 shows that the R-value is .507, which indicates the correlation between self-leadership and teacher engagement in private universities in Hunan Province, China, is 0.507. As the R square is .457, they can predict 45.7% of this model variance, which means that self-leadership could predict 45.7% of teacher engagement.

After the data analysis, six predictors had significant impacts on teacher engagement in private universities in Hunan Province, China. The results of Tab. 4 display that focusing on natural rewards has the largest significant impact on teacher engagement, followed by self-observation, self-cueing, self-goal setting, self-talk, and mental imagery.

Table 4 - Multiple regression results of self-leadership’s impact on the DV (N=305) (made by co-authors)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.507</td>
<td>.457</td>
<td>.435</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Teacher Engagement  
b. Predictors: (Constant), Self-Observation, Self-Goal Setting, Self-Reward, Self-Punishment, Self-Cueing, Evaluating Beliefs and Assumptions, Mental Imagery, Self-Talk, Focusing on Natural Rewards

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>29.504</td>
<td>9</td>
<td>3.278</td>
<td>11.367</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>85.074</td>
<td>295</td>
<td>.288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>114.578</td>
<td>304</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Observation</td>
<td>.832</td>
<td>.235</td>
<td>.149</td>
<td>3.537</td>
</tr>
<tr>
<td>Self-Goal Setting</td>
<td>.126</td>
<td>.050</td>
<td>.117</td>
<td>2.524</td>
</tr>
<tr>
<td>Self-Reward</td>
<td>.092</td>
<td>.046</td>
<td>-.064</td>
<td>2.469</td>
</tr>
<tr>
<td>Self-Punishment</td>
<td>-.051</td>
<td>.044</td>
<td>.023</td>
<td>-1.160</td>
</tr>
<tr>
<td>Self-Cueing</td>
<td>.095</td>
<td>.038</td>
<td>.141</td>
<td>2.071</td>
</tr>
<tr>
<td>Evaluating Beliefs and Assumptions</td>
<td>.004</td>
<td>.043</td>
<td>.005</td>
<td>.043</td>
</tr>
<tr>
<td>Mental Imagery</td>
<td>.099</td>
<td>.048</td>
<td>.116</td>
<td>2.034</td>
</tr>
<tr>
<td>Self-Talk</td>
<td>.086</td>
<td>.042</td>
<td>.117</td>
<td>2.034</td>
</tr>
<tr>
<td>Focusing on Natural Rewards</td>
<td>.125</td>
<td>.046</td>
<td>.164</td>
<td>2.740</td>
</tr>
</tbody>
</table>

a. Dependent variable: teacher engagement

**Strategies development**

Strategies for improving teacher engagement in private universities in Hunan Province, China, were developed based on the dual-drive model constructed.
Construction of a dual-drive model

The construction of the dual-drive model involved integrating the findings from research objectives 1–3. The results confirmed the significance of both job resources and self-leadership strategies together with their combined effects in relation to teacher engagement, indicating that these variables play a crucial role in influencing instructors’ engagement levels.

Furthermore, multiple regression analysis was employed to assess the importance of each component of job resources and self-leadership in predicting teacher engagement in private universities in Hunan Province, China. This analysis allowed for the identification of the specific job resources and self-leadership strategies that significantly impacted teacher engagement; thus, a dual-drive model (see Fig. 3) was constructed according to the significant factors identified from the statistical analysis results, aiming to provide effective strategies for driving the improvement of teacher engagement through both external and internal forces.

The model consists of 13 significant factors, categorized into two main components: job resources and self-leadership strategies. The job resources represent external forces that contribute to teacher engagement.

They encompass elements related to the alignment of personal values with the university’s mission, a sense of belongingness within the institution, autonomy in decision-making, positive feedback on performance, support from supervisors and colleagues, and the motivation of students. Self-leadership strategies stand for internal drives that individuals can employ to enhance their own engagement.

They involve self-reflective practices, setting personal goals, utilizing self-cues for motivation, visualization techniques, positive self-talk, and focusing on intrinsic rewards.

![Diagram of the dual-drive model for teacher engagement](image)

Figure 2 - The dual-drive model for teacher engagement
(made by co-authors)
**Strategies for generating**

Based on the dual-drive model, strategies were generated for improving teacher engagement, which highlighted key job resources for teachers and strategies of self-leadership, providing reliable guidelines to improve teacher engagement from the organizational perspective as well as the individual level of instructors.

After being validated by an expert group and synthesizing the recommendations from the experts, the researcher carefully reviewed and revised the strategies, aiming to enhance the clarity, practicality, and relevance of the final version of the strategies in the specific context of private universities in Hunan Province, China. These strategies begin with instructors’ actions to enhance self-leadership:

1. Keeping self-observation
2. Setting self-goals
3. Utilizing self-cueing
4. Visualizing successful performance
5. Conducting rational self-talk
6. Focusing on natural rewards

This part focuses on providing an action plan to enhance self-leadership while also highlighting its supportive role in facilitating the positive impact of job resources on teacher engagement. By ensuring faculty members have easier access to job resources, they are more likely to activate their self-leadership abilities as personal resources. This, in turn, contributes to their sustained engagement in teaching.

The other part centers on the role of job resources supported by universities in fostering teacher engagement:

1. Enhancing value consonance
2. Fostering a strong sense of belonging
3. Empowering teacher autonomy
4. Offering positive performance feedback
5. Optimizing supervisory support
6. Deepening colleague collaboration
7. Increasing student motivation

Job resources provide the necessary support, tools, and opportunities for faculty members to effectively carry out their roles and responsibilities, both in terms of in-role performance (fulfilling the expected job requirements) and extra-role performance (going above and beyond).

The availability of job resources acts as an external motivation that encourages faculty members to invest their efforts in achieving organizational goals and delivering superior performance.

**Conclusions**

The study reported here, which aimed to address the identified factors in the dual-drive model and provide practical solutions to enhance teacher engagement in private universities in Hunan Province, China, drew the following conclusions:

Teacher engagement included four dimensions (cognitive engagement, emotional engagement, social engagement with students, and social engagement with colleagues); job resources for instructors concerned eight major ones (value consonance, feeling of belonging,
INNOVATIVE STRATEGIES FOR TEACHER

teacher autonomy, positive performance feedback, learning and development opportunities, supervisory support, supportive colleagues, and student motivation); and self-leadership contained eight strategies (self-goal setting, self-rewards, self-punishment, self-cueing, evaluating beliefs and assumptions, mental imagery, self-talk, and focusing on natural rewards).

The current teacher engagement level in private universities in Hunan Province was moderate; both job resources and self-leadership were also found to be at a moderate level. While administrators had taken some actions to enhance teacher engagement and had included it in their development plans, there was still significant room for improvement.

There was a complex interplay (combined impact) between these factors, and it is important to consider their combined effects when developing strategies and interventions to enhance teacher engagement. Seven job resources and six self-leadership strategies were found to have a significant influence on teacher engagement.

The dual-drive model consisted of 13 significant factors, based on which innovative strategies integrating job resources and self-leadership were finally developed for teacher engagement with experts’ validation.

**Recommendations**

The findings of this study are anticipated to offer valuable insights to private universities in Hunan Province and beyond, aiming to enhance teacher engagement. By implementing strategies that prioritize the provision of job resources and the cultivation of self-leadership skills, it is possible to create a positive work environment that fosters teacher engagement.

This, in turn, can lead to improvements in teaching quality and student outcomes. In terms of future directions, recommendations are provided so that other researchers can adapt and enhance their methodologies based on the research findings.

1. Conduct longitudinal studies on implementing interventions aiming at enhancing teacher engagement to evaluate the effectiveness of specific interventions targeting job resources and self-leadership strategies and examine the long-term effects of job resources and self-leadership on teacher engagement. Follow instructors over an extended period to understand how these factors evolve and interact over time.

2. Compare teacher engagement and its determinants across different types of universities or educational contexts. Investigate if there are variations in the levels of engagement, job resources, and self-leadership strategies between private and public universities or between different regions.

3. Verify the mediating and moderating role of self-leadership and job resources in the dual drive model constructed in this study for a deeper understanding of the mechanism of effects between job resources, self-leadership, and teacher engagement within an educational context.

**References**


Gallup (2014). *State of America’s schools: The path to winning again in education*. Available online: https://www.gallup.com


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