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Empirical Analysis of the Relationship between Organizational Support and the Improvement of Senior High School Education Quality

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Abstract: According to the Social Exchange Theory and Conservation of Resources Theory, this paper investigates how organisational support affects the quality of senior high school education. A hierarchical linear model (HLM) will be used to analyse the survey data collected from 1,168 teachers at 52 senior high schools in a province. Based on the above analysis, organisational support positively and significantly predicts educational quality; this effect is still present after controlling for school size and student-source quality. Organisational support partially mediates the path from teacher efficacy to educational quality, and a positive school climate strengthens the connection between organisational support and educational quality. Heterogeneity analysis shows that the marginal effect of organisational support is relatively larger in rural schools and low-reputation schools. Provide empirical support and policy recommendations for optimising school management and enhancing educational quality.

Keywords: organizational support; senior high school education quality; teacher efficacy; school climate; Hierarchical Linear Model

1. Introduction

Improving the quality of general senior high school education constitutes a core issue in basic education reform in the new era. Existing studies mostly adopt micro-perspectives such as curriculum instruction and teacher training, while paying insufficient attention to how affective and instrumental support provided by schools as organizational systems shapes educational outcomes. The theory of organizational support highlights that employees' overall perception of whether their contributions are valued and well-being cared for by the organization profoundly affects their work attitudes and behavioral performance. In educational contexts, teachers' perceived school support may serve as a crucial antecedent that activates teaching engagement and drives quality improvement. Nevertheless, existing literature lacks large-sample quantitative tests targeting senior high schools, and integrated analyses of mediating and moderating mechanisms are particularly inadequate. Accordingly, this study constructs an integrated framework featuring "organizational support - teacher efficacy - education quality" and the moderation of school climate. Empirical analysis is conducted using large-scale survey data to reveal the internal logic through which organizational support acts on education quality and offer evidence-based references for school improvement [1].

2. Core Concepts and Theoretical Foundations

2.1. Connotation and Dimensions of Organizational Support

Eisenberger and his colleagues have proposed that organisational support is the extent to which employees feel that the organisation values their contributions and cares about their lives. Organisational support in educational institutions refers to institutional responses and humanistic care provided by the school administration system for teachers'

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work demands, professional development and emotional needs. Most scholars believe that there are multiple components of support, such as instrumental support (provision of teaching materials and training opportunities), emotional support (respect, recognition and psychological comfort), and evaluation support (performance feedback and career planning advice). Together, the three attributes form a psychological picture of how teachers perceive the school's organisation environment. Organisational support is not a one-way flow of resources; rather, it is a network of relationships in the course of daily life. Whether the teacher feels supported will determine whether they will be motivated to change their behaviour voluntarily; if it is perceived as genuine care rather than a strategy to motivate them, they may be more willing to participate.

2.2. Definitions and Evaluation Indicators for the Quality of Senior High School Education

The quality of senior high school education is a multi-faceted and dynamic composite concept that includes both cognitive results, such as students' grades, and non-cognitive development, such as physical and mental health and social-emotional skills. Based on the idea of value-added assessment, this paper defines the quality of education as the net impact of schools in promoting all-round development for students at different starting points. Three kinds of indicators are used for operationisation: academic value-added (standardised subject progress based on entrance and graduation scores), student development satisfaction (general assessment of the school's nurturing environment), and the aggregated mean of collective teacher teaching efficacy (representative of professional standards for teaching). The above multiple dimensions of evaluation avoid the limitations of single-exam-score-based assessments and can reflect the quality of process-oriented education, which is in line with the policy direction of diversified and distinctive development for senior high schools [2].

2.3. Theoretical Basis for the Impact of Organizational Support on Educational Quality

Social Exchange Theory and Conservation of Resources Theory can be used to study the impact of organisational support on education quality. According to social exchange theory, if teachers feel that their schools provide sufficient support, they will be motivated to increase their own efforts in teaching and display more organisational citizenship behaviour; thus, classroom efficiency and all-around educational results will improve. Conservation of Resources Theory suggests that the organisation provides teachers with emotional and material support to help them cope with the stress of work, avoid resource depletion, and maintain a sense of purpose in teaching innovation. Self-determination theory also provides some support: A supportive school environment can meet teachers' needs for autonomy, competence and relatedness, motivate them intrinsically to teach well, and thus positively affect students' learning outcomes. The three theories are mutually reinforcing and together form a network of mechanisms through which organisational support enhances education quality by motivating people, providing resources and building relationships.

3. Research Design

3.1. Analytical Framework and Research Hypotheses

Based on the theory of integration, this study has built a three-tiered analytical system of "main effect - mediating effect - moderating effect". At the main-effect level, Hypothesis H1 proposes that organisational support positively predicts the quality of senior high school education. Hypothesis H2 at the mediating level proposes that teacher efficacy serves as a mediator for the relationship between organisational support and educational quality; that is to say, organisational support enhances educational results by boosting teachers' teaching confidence. At the moderating level, Hypothesis H3 is proposed: school climate positively moderates the relationship between organisational support and education quality; that is, the marginal effect of organisational support is enhanced in the presence of a cooperative-trusting and democratic-decision-making climate. In addition, there may be unobserved heterogeneity due to differences among

schools and their locations that have not been accounted for in the analysis. In short, the whole system believes that organisational support can affect the quality of education directly and indirectly via teachers' psychological cognition, and this process is restricted by school circumstances.

3.2. Data Sources and Measurement of Variables

The data are from the 2023 baseline survey of the Senior High School Education Quality Monitoring Project. Stratified cluster sampling was used to select 52 senior high schools in a province, and then 22-25 teachers were randomly selected from each school to fill out the questionnaire. Data on students' grades and other attributes are taken from the school's administration office. The final set of valid samples includes 1,168 teachers and 52 schools. Organizational support is the main independent variable; it is measured by the abbreviated 6-item scale proposed by Eisenberger, which covers affective care and resource provision, and has a Cronbach's α of 0.89. The dependent variable, education quality, is a standardised composite index formed by combining academic value-added scores, average student satisfaction and aggregated mean teacher efficacy. The mediator is teacher efficacy, and it is measured by Tschannen-Moran's short-form 4-item scale ($\alpha = 0.87$). A self-developed 5-item cooperation-decision-making scale ($\alpha = 0.84$) was used to measure the moderating variable of school climate. Control Variables: School Size, Quality of Student Source and Average Teacher Teaching Experience [3].

3.3. Analysis Methods and Model Specifications

Given the nested data structure (teachers nested within schools), Hierarchical Linear Model is employed to test main and moderating effects, and the Monte Carlo method is used to compute confidence intervals for mediating effects. The model is at the Level-1 (teacher level) and Level-2 (school level). First, the null model investigates the variation in education quality among schools and calculates the intraclass correlation coefficient. Then add the independent variables and control variables one by one to the random-intercept model. Add cross-level interaction terms to examine moderation. Harman's single-factor test and marker-variable correction are used to address common-method bias. The three strategies for robustness tests are: replacing the dependent variable with only academic value-added, bootstrapping and propensity score matching. Centre all continuous variables before fitting the model and use multiple imputation to handle missing values.

4. Empirical Results

4.1. Descriptive Statistics and Difference Analysis

Based on the above descriptive statistics, the mean score of organisational support is 3.52 (SD = 0.68); the mean of the education quality composite index is 0.00 (SD = 0.72); the mean of teacher efficacy is 3.81 (SD = 0.59); and the mean of school climate is 3.43 (SD = 0.74). According to independent-samples t-tests, teachers in public schools report receiving more organisational support than those in private schools (mean difference = 0.21, $p < 0.05$); however, there is no difference between urban and rural schools. Based on the initial correlation analysis, it was found that organisation support is positively correlated with educational quality ($r = 0.36$, $p < 0.01$) and significantly related to teacher efficacy ($r = 0.42$, $p < 0.01$); thus, these provide preliminary support for the hypotheses. Null-model results show that the proportion of between-school variance in education quality is 31.6%, and thus cross-level analysis can be conducted.

4.2. Main-Effect Test of Organizational Support on Education Quality

After controlling for school size, student-source quality and average teaching experience, the fixed-effect coefficient of organisational support on education quality obtained from the Hierarchical Linear Model is 0.31 (SE = 0.09, $p < 0.01$), thus supporting Hypothesis H1. That is to say, an increase of one standard deviation in organisational support is associated with an expected rise of 0.21 standard deviations in the composite index of education quality. Random-effects results show that there is significant cross-

school variance in the slope of organisational support ($\chi^2 = 68.32$, $p < 0.05$), and therefore a possible cross-level moderator. At the same time, student-source quality is also positively correlated with education quality ($\beta = 0.24$, $p < 0.05$). Organizational support has a similar effect size and is independently related to education quality after adjusting for differences in student intake.

4.3. Heterogeneity Analysis and Robustness Tests

Based on the division of geography and school reputation, heterogeneity analysis is carried out. Based on the above results, the marginal effect of organisational support is relatively larger in rural schools (coefficient = 0.39) compared with urban schools (coefficient = 0.24), and also larger in low-reputation schools (coefficient = 0.41) than in high-reputation schools (coefficient = 0.27). Therefore, it can be concluded that organisation support serves as a partial substitute for resources in a resource-scarce environment. For robustness tests, when the dependent variable is set to academic value-added alone, the coefficient is 0.22 and still statistically significant. The 95% confidence interval of the 500-time Bootstrap resampling does not include zero, and the ATT estimate after propensity score matching is 0.19 ($p < 0.05$); thus, the reliability of the main-effect conclusion has been validated. Harman's single-factor test shows that the first factor accounts for 27.3 per cent of the total variance and is therefore not considered to have severe common-method bias [4].

4.4. Mechanism Tests

4.4.1. Mediating Effect of Teacher Efficacy

A 1-1-1 multi-level mediation model is used, and within-group covariance is extracted at the teacher level for indirect-effect estimation. Based on the above analysis, organisational support positively and significantly predicts teacher efficacy ($\beta = 0.38$, $p < 0.001$), and teacher efficacy positively and significantly predicts education quality ($\beta = 0.25$, $p < 0.01$). The estimated indirect effect of the mediating path is 0.095, and the Monte Carlo 95% confidence interval [0.042, 0.157] does not include zero. Mediation accounts for about 30.6 per cent of the total effect. Thus, it can be seen that organisational support helps to enhance teachers' sense of teaching ability and supports Hypothesis H2. At the same time, there is still a direct effect (coefficient = 0.215, $p < 0.01$) and other unobserved mediating paths. Organizational support may help teachers cooperate better and reduce their workload through various channels.

4.4.2. Moderating Effect of School Climate

The cross-level interaction term (school climate $\times$ organisational support) has a coefficient of 0.19 ($SE = 0.07$, $p < 0.05$) for predicting education quality, and it is found that school climate positively moderates the effect of organisational support on education quality. Based on simple-slope analysis, in the high-school-climate group (mean + 1SD), the marginal effect of organisational support is 0.38 ($p < 0.001$); in the low-school-climate group (mean - 1SD), this marginal effect drops to 0.21 ($p < 0.05$). A similar moderation pattern supports Hypothesis H3: Open, cooperative and democratic organisations enhance the positive impact of supportive management on teaching results. Further examination of the three-way interaction did not find a significant difference in the moderating effect of public and private schools; therefore, the improvement function of school climate appears to be consistent across both types of schools.

4.4.3. All-Weather Mechanism Analysis

Mediation and moderation can be combined in a single model to examine whether the mediating effect of teacher efficacy is consistent at all levels of the moderator. School climate moderates the main effect to some extent independently of the mediator. Specifically, the conditional indirect effect (moderated mediation) is not significant (confidence interval includes zero), so school climate does not alter the transformation efficiency of teacher efficacy but rather strengthens the connection between organisational support and teacher efficacy. In short, the organisation supports education by providing various forms of "partial direct effects + indirect mediation + contextual reinforcement".

Teacher efficacy is an inner psychological mediator, and school climate provides an outer catalytic environment. Based on the above analysis of individual cognitive and organisational contexts, the two factors jointly determine why and when organisational support can enhance the quality of senior high school education.

5. Conclusions and Suggestions

5.1. Research Conclusions

Based on multiple sources of large-scale data, this paper systematically investigates the connection between organisational support and the quality of senior high school education. Three primary results have been obtained. First, the organisation's support has a strong positive effect on education quality, and this effect is relatively larger in rural and low-reputation schools; thus, supportive administration serves as a compensatory mechanism for disadvantaged schools. Second, teacher efficacy partially mediates the path. Therefore, it can be seen that the improvement of organisational quality does not solely depend on material resources but also on the extended influence of nurturing teachers' professional beliefs. Third, the School Environment is a necessary external condition. A cooperative and trustworthy organisation will help to realise all the advantages of organisational support. In short, this paper combines social exchange theory, resource conservation theory and motivation theory to explore how different types of school organisations affect students' learning outcomes empirically [5].

5.2. Policy Recommendations

Based on the above analysis, the following three proposals are proposed. First, the education administrative department will add organisational support to the school's evaluation system and periodically collect data on how teachers feel supported, paying particular attention to resource allocation and humanistic care for rural and disadvantaged schools. Second, school administrators need to strengthen their focus on nurturing teacher efficacy. Supportive behaviour should go beyond salary guarantees and include professional empowerment; personalised teaching-research guidance can be provided, along with platforms for showcasing teaching achievements, to boost teachers' sense of teaching control. Thirdly, a good school environment needs to be created to help the organisation achieve its goals better. Work to promote democratic intra-school decision-making and standardised teaching-research cooperation, build a trust-based teacher evaluation system, and enable organisational support to achieve optimal results in an open and inclusive cultural environment.

5.3. Research Limitations and Future Prospects

This study has several deficiencies. Firstly, the data are only from one province; therefore, the results should not be applied generally across the country. Secondly, although a Hierarchical Linear Model has been employed, the cross-sectional design cannot determine causality definitively, and thus reverse causality or omitted-variable bias may still occur. Thirdly, the indicators of educational quality focus on quantitative results and fail to assess students' deeper-level literacy and extended-term development. In the future, more samples will be taken from various provinces, and either longitudinal data or quasi-experimental designs will be used to enhance causal identification; at the same time, qualitative feedback from students and alumni development records will also be added to expand the scope of research. Research will also be conducted on how different kinds of principal leadership styles affect organisational support.

6. Conclusion

Organisational support is not an added decoration for educational administration; rather, it serves as an institution's resources to improve the quality of senior high school education. Based on the above data, determine whether it falls within the range and changes accordingly. It can meet the theoretical requirements for research on educational organisation and provide feasible improvement directions for frontline schools. To

achieve fair and high-quality education, we need to ensure that all teachers feel cared for and supported by their organisations, and this should now be a basic agreement and direction for modernising school governance.

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