

## Altruistic leadership: A quantitative analysis of its effects on school culture, teacher integrity, and performance in Muhammadiyah middle schools in Indonesia

Istanto Istanto <sup>1,\*</sup>, Fakhruddin Fakhruddin <sup>2</sup>, Heri Yanto <sup>3</sup>, Suwito Eko Pramono <sup>4</sup>

<sup>1</sup>Department of Educational Management, Postgraduate School, Universitas Negeri Semarang, Semarang, Indonesia

<sup>2</sup>Faculty of Education and Psychology, Universitas Negeri Semarang, Semarang, Indonesia

<sup>3</sup>Faculty of Economics and Business, Universitas Negeri Semarang, Semarang, Indonesia

<sup>4</sup>Faculty of Social and Political Sciences, Universitas Negeri Semarang, Semarang, Indonesia

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### ABSTRACT

This study aims to explore how philanthropic leadership affects the performance of top Muhammadiyah Middle Schools in Central Java. It also examines how altruistic leadership influences teacher integrity, school culture, teacher discipline, and overall school performance. Additionally, the study investigates the impact of teacher integrity, school culture, and teacher discipline on school performance. The research follows a quantitative approach, using Structural Equation Modeling (SEM) for data analysis. Data were collected from teachers and staff at 288 Muhammadiyah Middle Schools in 35 districts/cities in Central Java, using a multistage random sampling technique. The study focused on variables such as altruistic leadership, school culture, teacher integrity, teacher discipline, and school performance, with information gathered through questionnaires. The findings show that altruistic leadership has a significant positive effect on school performance and, along with teacher integrity and school culture, improves school outcomes. However, altruistic leadership does not have a strong effect on teacher discipline.

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### 1. Introduction

Altruistic leadership is characterized by prioritizing the needs of others over personal interests. It ensures leaders place team needs first and support their members in task execution without expecting rewards. This style of leadership not only enhances organizational performance but also promotes workplace satisfaction and reduces the psychological distance between leaders and their teams (Goduscheit et al., 2021; Hibino, 2023).

Furthermore, teacher integrity is critical for educational success, encompassing adherence to ethical norms, principles, and expectations (Udonsathian and Worapun, 2024). Factors such as teacher behavior, commitment, and integrity play crucial roles in influencing teacher performance (Saptono et al., 2020). Discipline, an essential aspect

of teacher behavior, is reflected in adherence to school regulations and overall conduct, significantly impacted by the exemplary behavior of the school head (Khadka and Bhattarai, 2021).

This study's urgency stems from the need to understand the impact of leadership styles, particularly altruistic and servant leadership, on educational outcomes in Indonesian middle schools. Given leadership's significant role in shaping educational environments, this research focuses on the Muhammadiyah Middle Schools in Central Java, a region with a diverse educational landscape (Astyandini et al., 2023). The study investigates how different facets of leadership influence school performance and teacher behavior, including integrity and discipline (Agustina and Anshory, 2023; Harimurti and Alam, 2024).

Specifically, this research aims to analyze the impact of philanthropic and altruistic leadership on the performance of superior Muhammadiyah Middle Schools in Central Java (Apriantoro et al., 2023). It examines the effects of these leadership styles on teacher integrity, school culture, and teacher discipline and explores how these factors collectively influence the performance of these schools. Employing a quantitative methodology, the study

\* Corresponding Author.

Email Address: [istanto@students.unnes.ac.id](mailto:istanto@students.unnes.ac.id) (I. Istanto)

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Corresponding author's ORCID profile:

<https://orcid.org/0009-0009-4546-2050>

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utilizes Structural Equation Modeling (SEM) to analyze data collected via questionnaires from teachers and staff across 288 schools in 35 regencies/cities. This comprehensive approach aims to provide insights into the efficacy of altruistic leadership and its potential as a transformative force in educational settings.

## 2. Literature review and research hypothesis

### 2.1. Leadership in educational management: A multidimensional perspective

Leadership styles vary significantly, each bringing a unique set of behaviors and approaches to the table. These styles can be categorized into individual, behavioral, and situational approaches. The individual approach focuses on the personal attributes of leaders that contribute to their success, such as physical and intellectual strength, goal orientation, morale, sociability, integrity, competence, and trust-building capabilities (Hidayat and Wulandari, 2020).

Additionally, altruistic leadership fosters quality interactions between leaders and subordinates and evokes positive emotions, thereby creating a more positive work environment. This can lead to improved family-to-work development, indicating the potential for significant organizational development. By emphasizing these positive impacts, we can instill optimism in our audience about the potential benefits of altruistic leadership. The proposed hypotheses for this study are:

**H1:** Leadership-Related Altruism positively influences School Culture.

**H2:** Leadership-Related Altruism Enhances Teacher Integrity.

**H3:** Leadership-Related Altruism Improves Teacher Discipline.

**H4:** Leadership-Related Altruism Boosts Muhammadiyah School Performance.

These hypotheses aim to explore how altruistic leadership can transform the educational landscape by fostering a collaborative, supportive, and innovative environment that resonates throughout school management.

### 2.2. The role of school culture in educational outcomes

School culture embodies the traditions, customs, and behaviors that are prevalent within the school community. It creates a work climate that enhances the connections among educators, fostering a collaborative and supportive environment. This supportive culture is further described through attributes such as collegiality, intimacy, and cooperative interactions, which are vital for the harmonious operation of a school (Abdullah, 2019).

Moreover, the influence of school culture extends beyond internal interactions to affect the broader educational achievements of students. Several key organizational characteristics influenced by culture include innovation, attention to detail, results orientation, people orientation, team orientation, aggressiveness, and stability (Tonich, 2021). It not only enhances the integrity and discipline among teachers but also significantly impacts the institution's overall performance, as observed in studies concerning Muhammadiyah schools. Thus, the hypotheses proposed in this context are:

**H5:** A positive school culture is associated with higher levels of teacher integrity.

**H6:** A positive school culture enhances teacher discipline.

**H7:** A positive school culture improves the overall performance of Muhammadiyah schools.

### 2.3. Understanding teacher integrity and its impact on educational outcomes

Integrity in teaching is a fundamental trait that underscores the ethical framework within which educators operate. Integrity involves consistency and firmness in upholding noble qualities and confidence, and it is further defined as exhibiting honesty, strong moral principles, and ethical consistency. Integrity is also viewed as a composite of physical wellness, expert knowledge, mental craftsmanship, social camaraderie, and spiritual wholesomeness (Berdeaux et al., 2022; Wote and Sero, 2021).

The hypothesis related to this aspect posits that:

**H8:** Teacher integrity is positively related to the performance at Muhammadiyah School in Central Java.

### 2.4. Exploring teacher discipline: Definitions, indicators, and impact on school performance

The impact of these disciplinary measures extends beyond the individual teacher to affect the broader educational outcomes. The enforcement and maintenance of discipline among teachers involve key indicators that affect their classroom management and student interactions. These indicators include leadership by example, fairness, firmness, relationships and humanity, motivation, and work environment and conditions. Effective discipline starts with school leaders modeling values such as honesty, fairness, and respectful communication, setting a standard for teachers to follow:

**H9:** Teacher discipline is positively related to performance at Muhammadiyah School in Central Java.

## 2.5. Evaluating school performance: Comprehensive measures and educational implications

School performance, as a concept, is rooted in the term "job performance," which refers to the effectiveness with which assigned tasks are executed within an organization. Performance is described as how someone functions and acts according to their responsibilities. It encompasses both actions undertaken and those omitted by employees,

highlighting its comprehensive nature (Jangmo et al., 2019).

Schools under the Muhammadiyah umbrella, known for their commitment to integrating faith with progressive educational practices, reflect these standards. Muhammadiyah's educational philosophy combines religious faith with modern educational advancements, ensuring its institutions remain relevant and effective in contemporary educational landscapes (Purwaningtias et al., 2020). Fig. 1 shows the conceptual model.

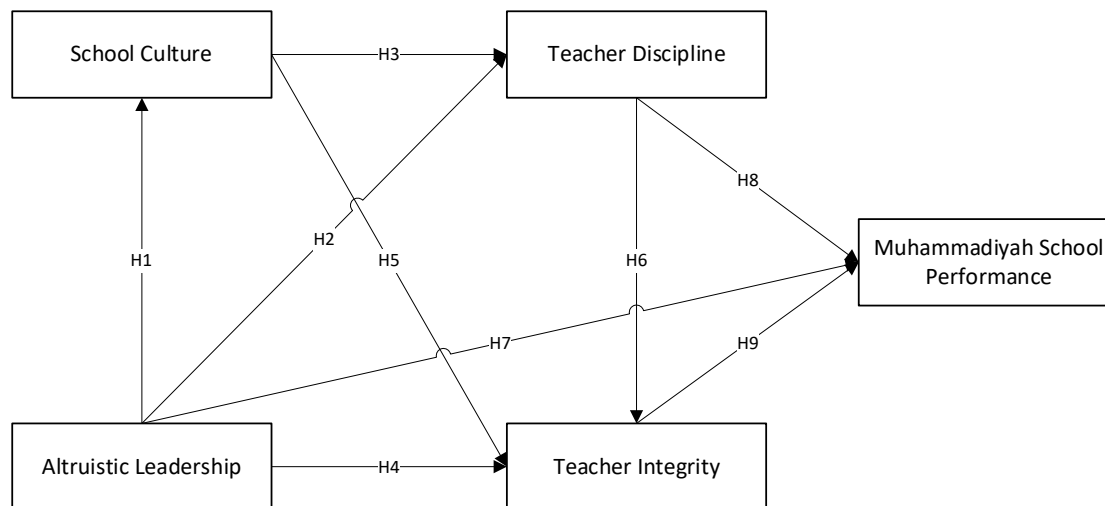


Fig. 1: Conceptual model

## 3. Materials and methods

We create a questionnaire with lifting scale items from measurement to collect empirical data. Questionnaire This contains questions closed on a Likert 4-point scale, ranging from 1 for "absolutely not agree" to 4 for "totally agree." We picked up the religiosity scale of Singh et al. (2021), platform quality from social influence from Brilliany and Indrawati (2022), intentions from Gunden et al. (2020), self-control Gulfranz et al. (2022), consumer moods from Febrilia and Warokka (2021). Finally, the impulse buying tendency scale is raised (Lahath et al., 2021). The author collected personal data, and convenience sampling was used to choose respondents (Apriantoro et al., 2024). The researcher used Google Forms to spread the questionnaire to 270 respondents, the Indonesian Muslim community and the results for every variable were classified as Good to excellent—data obtained from response participants to questionnaires were distributed and processed in a way statistics.

Device SPSS and AMOS software are also used to develop a model based on validity and reliability tests. On the other hand, analysis statistics are used as investigator profile respondents and description of general data. This study uses the quantitative method through the SEM approach (Evermann and Tate, 2016; Yang et al., 2023). We conducted an Exploratory Factor Analysis (EFA) and found that six items were removed because the variable was possibly invalid or low. Next, we conducted a confirmatory factor analysis (CFA) that tested model

fit, validity convergent, and validity discriminant by the approach (Anderson and Gerbing, 1988). CFA supports finding index model fit. Values This is at in adequate range (GFI = 0.849 (Acceptable = 0.80), CFI = 0.917 (Acceptable = 0.90); TLI = 0.907 (Acceptable = 0.90); RMSEA = 0.059 (adequate range < 0.08).

Table 1 shows a summary questionnaire. We also follow the suit classification proposed by Hooper et al. (2008) to measure model fit. To confirm measured absolute, four indexes Were extracted in a way empirically: (1) Chi-square/ degree freedom ( $\chi^2/df$ ), which is the value  $\chi^2/df$  must lower of 3.0, (2) Root Mean Square Error of Approximation (RMSEA) where the standard limit is is 0.08 (Hu and Bentler, 1999). (3) GFI, CFI, and TLI, which are the values that can accepted, are values 0.80 to 0.90 or more.

## 4. Results

Research shows 288 valid respondents from Muhammadiyah Middle School teachers throughout Central Java across 35 districts /cities. This study used Proportional Random Sampling.

Based on the results, the variables tested in Table 2 show that the KMO index of this model, in a way whole, is 0.920, and the resulting value, more considerable than 0.5, already exceeds the threshold. Because of that, the result from the analysis model factor can be reliable, and the sample size can be sized sufficiently. Data obtained can factored with p-value = 0.00 and produce a variance of 63,967%.

**Table 1:** Scale summary

| No. | Variable                        | Definition  | Indicators  |
|-----|---------------------------------|---|---|
| 1   | Servant leadership              | Servant leadership refers to leaders who serve others by acting as stewards   | 1) Compassion<br>2) Empowerment<br>3) Vision<br>4) Humility<br>5) Trust   |
| 2   | Culture school                  | Culture school refers to the beliefs and assumptions acquired by school members, often unconsciously, based on their environment  | 1) Absence rate<br>2) Level of rotation<br>3) Work power<br>4) Work discipline<br>5) Loyalty<br>6) Conflict in the work environment |
| 3   | Integrity school                | Integrity school emphasizes the quality of behaving honestly, having strong moral principles, and maintaining moral honesty   | 1) Spiritual<br>2) Mental<br>3) Social<br>4) Physical   |
| 4   | Discipline school               | Teacher discipline involves an orderly conduct by teachers who carry out teaching and learning activities at school without causing harm to themselves, colleagues, students, or the school | 1) Time discipline<br>2) Rule compliance discipline<br>3) Attitude discipline<br>4) Worship discipline                              |
| 5   | Muhammadiyah school performance | School performance reflects the quality of educational services provided by the school to its stakeholders (customers)  | 1) Educational outcomes<br>2) Quality of the educational process<br>3) School's capacity or ability to deliver services             |

After removing three items with load factors below 0.50 from the EFA, CFA was used to assess the validity and reliability of the remaining items and constructs. As shown in Table 3, the CFA results demonstrate good model fit and reliability, with values of  $\chi^2/df = 2.09$ , GFI = 0.849, CFI = 0.917, TLI = 0.907, and RMSEA = 0.059. Additionally, Cronbach's Alpha for each construct is above 0.6, indicating adequate reliability, while composite reliability values for each construct range from 0.8 to 0.9, which are within acceptable limits.

Table 4 summarizes the hypotheses, all of which are supported. The findings reveal that leadership significantly impacts school culture (H1), teacher integrity (H2), and overall performance in Muhammadiyah schools, though altruistic leadership does not have a significant effect on teacher discipline (H4). The results also show that school culture significantly influences both teacher integrity and discipline (H3, H5). Furthermore, teacher integrity positively impacts both teacher discipline and Muhammadiyah school performance (H6, H8). Teacher discipline also has a significant positive effect on Muhammadiyah school performance (H9). Thus, altruistic leadership, school culture, teacher integrity, and discipline all contribute to enhancing Muhammadiyah school performance.

## 5. Discussion

### 5.1. Analysis influences altruistic leadership to culture school

Research shows that leadership relates positively to culture school in building school Muhammadiyah excels in producing. The standardized coefficient ( $\beta$ ) value is 0.454, and the p-value <0.001. The analysis of the influence of altruistic leadership on school culture has demonstrated a significantly positive relationship, underscored by a  $\beta$  of 0.454 and a p-value of less than 0.001. This finding suggests that altruistic leadership is potent in cultivating a positive

and inclusive school culture. Altruistic leaders, known for prioritizing the welfare of the school community over personal gains, naturally foster values such as empathy, service, and collaboration. These qualities are essential for creating a supportive educational environment where collaboration and trust flourish.

### 5.2. Analysis influences leadership altruism toward teacher integration

Research results second disclose that variable altruistic leadership with teacher integration is influential, positive, and significant, producing a  $\beta$  of 0.391 and a p-value <0.001. Further analysis exploring the influence of altruistic leadership on teacher integrity reveals a substantial positive impact, evidenced by a  $\beta$  of 0.391 and a p-value of less than 0.001. These results indicate that altruistic leadership significantly enhances teacher integrity within schools. Altruistic leadership, which emphasizes the well-being and development of followers over the leader's gain, naturally cultivates an environment where teachers feel valued and supported. This supportive atmosphere boosts teachers' moral integrity and encourages them to adhere more closely to ethical practices and educational standards.

### 5.3. Analysis of influence culture school teacher integration

Research shows that leadership relates positively to culture school in building school Muhammadiyah excels in producing. The  $\beta$  value is 0.454, and the p-value <0.001. The analysis regarding the influence of school culture on teacher integration also demonstrates a significant positive relationship, with a  $\beta$  of 0.454 and a p-value of less than 0.001. This robust statistical finding underscores the critical role that a well-established school culture plays in enhancing teacher integration within

Muhammadiyah schools. A positive and enriching school culture not only supports but actively promotes the successful integration of teachers into

the school community, facilitating their alignment with the school's mission and values.

**Table 2:** Measurement model exploratory factor analysis

| Variables | Components |   |       |       |   | Cronbach's alpha | Variance extracted explained | KMO   |       |        |       |
|-----------|------------|---|-------|-------|---|------------------|------------------------------|-------|-------|--------|-------|
|           | 1          | 2 | 3     | 4     | 5 |                  |                              |       |       |        |       |
| KA1       | 0.661      |   |       |       |   | 0.948            | 60.156                       | 0.945 |       |        |       |
| KA2       | 0.696      |   |       |       |   |                  |                              |       |       |        |       |
| KA4       | 0.736      |   |       |       |   |                  |                              |       |       |        |       |
| KA5       | 0.758      |   |       |       |   |                  |                              |       |       |        |       |
| KA5       | 0.688      |   |       |       |   |                  |                              |       |       |        |       |
| KA6       | 0.777      |   |       |       |   |                  |                              |       |       |        |       |
| KA7       | 0.709      |   |       |       |   |                  |                              |       |       |        |       |
| KA8       | 0.823      |   |       |       |   |                  |                              |       |       |        |       |
| KA9       | 0.671      |   |       |       |   |                  |                              |       |       |        |       |
| KA10      | 0.742      |   |       |       |   |                  |                              |       |       |        |       |
| KA11      | 0.713      |   |       |       |   |                  |                              |       |       |        |       |
| KA12      | 0.753      |   |       |       |   |                  |                              |       |       |        |       |
| KA13      | 0.779      |   |       |       |   |                  |                              |       |       |        |       |
| KA14      | 0.776      |   |       |       |   |                  |                              |       |       |        |       |
| KA15      | 0.661      |   |       |       |   |                  |                              |       |       |        |       |
| BS1       |            |   | 0.587 |       |   | 0.863            | 52.202                       | 0.866 |       |        |       |
| BS2       |            |   | 0.719 |       |   |                  |                              |       |       |        |       |
| BS3       |            |   | 0.768 |       |   |                  |                              |       |       |        |       |
| BS4       |            |   | 0.601 |       |   |                  |                              |       |       |        |       |
| BS5       |            |   | 0.746 |       |   |                  |                              |       |       |        |       |
| BS8       |            |   | 0.602 |       |   |                  |                              |       |       |        |       |
| BS10      |            |   | 0.685 |       |   |                  |                              |       |       |        |       |
| BS11      |            |   | 0.618 |       |   |                  |                              |       |       |        |       |
| IG2       | 0.639      |   |       |       |   |                  |                              |       | 0.894 | 61.429 | 0.894 |
| IG5       | 0.583      |   |       |       |   |                  |                              |       |       |        |       |
| IG6       | 0.637      |   |       |       |   |                  |                              |       |       |        |       |
| IG7       | 0.725      |   |       |       |   |                  |                              |       |       |        |       |
| IG9       | 0.626      |   |       |       |   |                  |                              |       |       |        |       |
| IG10      | 0.787      |   |       |       |   |                  |                              |       |       |        |       |
| IG11      | 0.784      |   |       |       |   |                  |                              |       |       |        |       |
| KG1       |            |   |       | 0.611 |   | 0.827            | 65.881                       | 0.797 |       |        |       |
| KG4       |            |   |       | 0.777 |   |                  |                              |       |       |        |       |
| KG10      |            |   |       | 0.683 |   |                  |                              |       |       |        |       |
| KG12      |            |   |       | 0.632 |   |                  |                              |       |       |        |       |
| KSM1      |            |   | 0.795 |       |   |                  |                              |       | 0.863 | 64.605 | 0.863 |
| KSM2      |            |   | 0.828 |       |   |                  |                              |       |       |        |       |
| KSM3      |            |   | 0.665 |       |   |                  |                              |       |       |        |       |
| KSM4      |            |   | 0.682 |       |   |                  |                              |       |       |        |       |
| KSM7      |            |   | 0.546 |       |   |                  |                              |       |       |        |       |
| Total     |            |   |       |       |   |                  | 63.967                       | 0.920 |       |        |       |

KA: Knowledge acquisition; BS: Behavioral skills; IG: Integrity; KG: Knowledge generalization; KSM: Knowledge sharing and management; KMO: Kaiser-Meyer-Olkin measure

**Table 3:** CFA

| GOF index              | Acceptable Value | CFA models | Results  |
|------------------------|------------------|------------|----------|
| $\chi^2$ (Chi-square)  |                  | 983.876    | Good Fit |
| df (degree of freedom) |                  | 471        |          |
| $\chi^2 / df$          | < 3              | 2.09       | Good Fit |
| GFI                    | > 0.8            | 0.849      | Good Fit |
| CFI                    | > 0.9            | 0.917      | Good Fit |
| TAG                    | > 0.9            | 0.907      | Good Fit |
| RMSEA                  | < 0.06           | 0.059      | Good Fit |

df: Degree of freedom; GFI: Goodness-of-fit index; CFI: Comparative fit index; TAG: Tucker-Lewis index; RMSEA: Root mean square error of approximation

**Table 4:** SEM results for testing the hypothesis

| Hypothesis | Path        | $\beta$ | SE    | P-value | Results      |
|------------|-------------|---------|-------|---------|--------------|
| H1         | KA → BS     | 0.454   | 0.089 | ***     | Supported    |
| H2         | KA → IG     | 0.391   | 0.076 | ***     | Supported    |
| H3         | BS → IG     | 0.459   | 0.078 | ***     | Supported    |
| H4         | KA → KG     | -0.065  | 0.075 | 0.323   | No Supported |
| H5         | BS → KG     | 0.450   | 0.091 | ***     | Supported    |
| H6         | IG → KG     | 0.442   | 0.090 | ***     | Supported    |
| H7         | KSM → TRAIN | 0.156   | 0.075 | 0.017   | Supported    |
| H8         | IG → KSM    | 0.457   | 0.099 | ***     | Supported    |
| H9         | KG → KSM    | 0.248   | 0.082 | 0.002   | Supported    |

\*\*\*:  $p < 0.001$ ; KA: Knowledge acquisition; BS: Behavioral skills; IG: Integrity; KG: Knowledge generalization; KSM: Knowledge sharing and management; TRAIN: Training;  $\beta$ : Beta coefficient; SE: Standard error

**5.4. Analysis of influence altruistic leadership to teacher discipline**

The analysis shows that altruistic leadership does not significantly impact teacher performance, with a

$\beta$  of -0.065 and a p-value of 0.323. When examining its effect on teacher discipline, the findings reveal an unexpected result: altruistic leadership does not notably influence teacher discipline. This suggests that although altruistic leadership positively affects

other areas of school functioning, its effect on teacher discipline is minimal or absent..

### **5.5. Analysis of influence culture school teacher discipline**

This proves that culture school influences teacher discipline with produce. The  $\beta$  value is 0.450, and the p-value  $<0.001$ . The analysis of the influence of school culture on teacher discipline shows a strong positive effect, as evidenced by a  $\beta$  of 0.450 and a p-value of less than 0.001. This result indicates that a well-established and positive school culture is significantly associated with higher levels of teacher discipline within the educational environment.

### **5.6. Analysis of the influence of teacher integration on teacher discipline**

This explained that teacher integrity matters to teacher performance with produce. The  $\beta$  value is 0.441, and the p-value  $<0.001$ . The analysis regarding the impact of teacher integrity on teacher discipline shows a significant positive relationship, indicated by a  $\beta$  of 0.441 and a p-value of less than 0.001. This finding suggests that higher levels of teacher integrity are closely associated with greater discipline among teachers. Teachers with strong integrity are likely to adhere more strictly to school policies and demonstrate more consistent and professional behavior, which in turn contributes to enhanced discipline within the educational environment.

### **5.7. Analysis of influence altruistic leadership to performance school Muhammadiyah**

This explained that leadership is influential and significant to the performance of the school, Muhammadiyah. The  $\beta$  value is 0.156, and the p-value is 0.017. The analysis of the impact of altruistic leadership on the performance of Muhammadiyah schools reveals a positive and significant relationship, with a  $\beta$  of 0.156 and a p-value of 0.017. This result indicates that altruistic leadership, characterized by prioritizing the well-being and development of others, positively influences the overall performance of these schools, suggesting that leadership focused on service and support can effectively enhance educational outcomes.

### **5.8. Analysis influences teacher integrity towards performance in school Muhammadiyah**

This explains that leadership is influential and significant to performance school Muhammadiyah with the  $\beta$  value of 0.475 and the p- p-value  $< 0.001$ . The analysis reveals a strong and significant influence of teacher integrity on the performance of Muhammadiyah schools, indicated by a  $\beta$  of 0.475 and a p-value of less than 0.001. This finding underscores that high levels of teacher integrity

substantially enhance school performance, highlighting the critical role of ethical and committed teaching practices in improving educational outcomes.

### **5.9. Analysis influences teacher discipline towards performance school Muhammadiyah**

This explains that leadership influence is significant to performance school Muhammadiyah with produce. The  $\beta$  value is 0.248, and the p- p-value is 0.002. The analysis indicates a significant positive relationship between teacher discipline and the performance of Muhammadiyah schools, with a  $\beta$  of 0.248 and a p-value of 0.002. This result demonstrates that disciplined teaching practices are an important factor in enhancing the overall performance of these schools.

## **6. Conclusion**

The study shows that altruistic leadership significantly contributes to building teacher integrity and a positive school culture, leading to improved performance at Muhammadiyah schools. School culture influences both teacher discipline and fosters integrity, encouraging teachers to fulfill their responsibilities to the best of their abilities. While school culture is essential in promoting high levels of teacher discipline, teacher integrity also plays a crucial role. In Muhammadiyah schools, factors like altruistic leadership, a strong school culture, teacher integrity, and discipline significantly support and enhance overall school performance.

## **Compliance with ethical standards**

### **Ethical considerations**

All participants provided informed consent, and their privacy and confidentiality were strictly maintained. Data were anonymized and securely stored, with access limited to authorized personnel. This study adhered to ethical guidelines to ensure integrity and transparency in reporting.

### **Conflict of interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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