Evaluating the Content Validity of Instruments for Measuring Principal's Ethical Leadership Practices Using the Content Validity Ratio (CVR) Method

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Submission date: 08-Oct-2024 10:12PM (UTC+0800)
Submission ID: 2432999029
File name: Full_paper_for_turnitin.docx (293.49K)
Word count: 4785
Character count: 26913

e-Bangi Faculty of Social Sciences and Humanities Universiti Kebangsaan Malaysia
Journal of Social Sciences and Humanities

Article

Evaluating the Content Validity of Instruments for Measuring Principal's Ethical Leadership Practices Using the Content Validity Ratio (CVR) Method

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Abstract: The principal's ethical leadership practices are crucial for developing an excellent school. By embodying ethical values such as honesty, integrity, and responsibility, principals inspire students and staff to act ethically. Ethical principal ensures fairness in school management, attend to the needs of all stakeholders, and engage in open and effective communication. Although several measurement instruments assess ethical leadership, those with good validity are limited, especially for evaluating principals. This study aims to test the content validity of the Principal's Ethical Leadership instrument using Lawshe's (1975) Content Validity Ratio (CVR) analysis. An online survey was conducted with five experts selected through purposive sampling, including individuals with backgrounds in educational management and administration from the Ministry of Education, state education departments, and school leaders. The instrument's validity involves seven constructs and 38 main items based on the Ethical Leadership at Workplace (ELW) model by Kalshoven et al. (2011). The study found that the instrument has good content validity, with 34 items reaching the minimum CVR value (N=5, CVRcritical=0.916). Three items that did not reach the minimum CVR value were improved, and one item was dropped, resulting in 37 refined items in the final instrument. This instrument has the potential to be a valuable tool for measuring ethical leadership practices among school leaders in Malaysia. A pilot study is recommended, with data analyzed using more in-depth statistical analysis such as SEM-PLS to refine items further and ensure the instrument's reliability and accuracy.

Keywords: Principal, ethical leadership, Content Validity Ratio (CVR) analysis, experts, Measurement tool

Introduction

School principals play a very important role in shaping the ethical climate in educational institutions, in addition to their administrative duties. Various obstacles and demands are also faced in an effort to ensure that aspects of teaching, safety, and the well-being of school members can be coordinated. Therefore, it is believed that an ethical leadership style can ensure that school administrators, especially principals carry out their duties honestly, efficiently and effectively. In today's educational landscape, ethical leadership by school principals is essential to promote honesty, accountability and academic performance. It requires following ethical norms at the individual level and encouraging others in the educational community to do the same (Dastan Kaduma, 2024).

Ethical leadership is widely recognized as important in educational environments globally, including in Malaysia, where school principals significantly influence educational outcomes and institutional integrity.

Despite this recognition, research on ethical leadership in the local context is still rare, especially on school principals in Malaysia (Vikaraman et al., 2021). There is a significant gap in studies that address how ethical leadership is measured, underscoring the challenge of accurately assessing such practices in the Malaysian education system. These challenges are further compounded by the absence of standardized measurement instruments that specifically consider the culture and ethics of the Malaysian educational environment (Bush & Oduro, 2006). International tools such as the Multifactor Leadership Questionnaire (MLQ) and the Ethical Leadership Scale (ELS) have been used to assess leadership style and ethical behaviour. However, this instrument may not fully reflect the specific characteristics and challenges faced by Malaysian school leaders. The MLQ, while assessing broader leadership styles, does not focus exclusively on ethical aspects. On the other hand, ELS targets ethical behaviour but may not align with cultural and ethical expectations prevalent in Malaysia (Avolio & Bass, 2004; Brown et al., 2005).

The validity and reliability of instruments used to measure ethical leadership among Malaysian school principals is critical, due to the unique cultural context. Mohd Sukri et al. (2022) emphasized the need to adapt the instrument to the local culture and conduct comprehensive validation to ensure it fits the specific characteristics of Malaysian principals. Furthermore, Velarde et al. (2020) state that existing leadership measurement often ignore Malaysia's cultural diversity, affecting the capacity to measure all relevant aspects of leadership, including ethical considerations. The evaluation of ELS in Malaysia also revealed discrepancies with local expectations and suggested the need for adjustments to ensure its effectiveness in the Malaysian context (Vikaraman et al., 2019). These findings underscore the importance of adapting and validating leadership measurement instruments to accurately reflect the ethical leadership characteristics of school principals in Malaysia.

Additionally, the focus of most existing instruments on reliability rather than content validity presents another challenge. Content validity is an important aspect of instrument validity; however, it is often not adequately addressed, with some validations only involving two experts instead of the recommended three, leading to potential inadequacies in the measurement process (Connell et al., 2018; Shrotryia & Dhanda, 2019; Zamanzadeh et al., 2015). The lack of strong empirical evidence supporting the validity of instruments, often reported in summary form, further complicates this issue. Ignoring content validity can lead to questionable results as it may not reach accurate results, even if reliability is high. Proper content validity ensures that the instrument accurately measures the intended variable in the specified study context (Polit & Beck, 2006).

Based on the issues raised, it clearly shows that there are still weaknesses from the aspect of validity for the instrument for measuring principals' ethical leadership practices in Malaysia. Thus, this study determines the content validity of the instrument to measure the principal's ethical leadership practices in a detailed and systematic way, which is to use the content validity ratio (CVR) method to answer the following questions:

RQ1: What is the validity value of the items in the principal's ethical leadership practice measurement instrument?

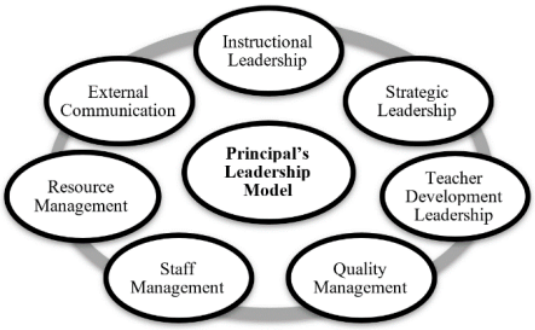
RQ2: Is the instrument suitable for use in the context of school leaders in Malaysia?

Literature Review

1. Principal's Ethical Leadership

The individual's personality, as well as the circumstances of the organization, shape the principal's leadership style. The principal's leadership methods may alter depending on internal or external conditions, but they always aim to achieve the same goal in an organization. According to Belchetz & Leithwood (2007), leadership methods need to be modified to the needs, limits, and potential of varied sociocultural and organizational circumstances. Li et al. (2016) developed the principal's leadership model to describe principals' leadership roles in schools. The principal's leadership has an impact on the members of the school organization, whether directly or indirectly.

Figure 1: The Principal's Leadership Model

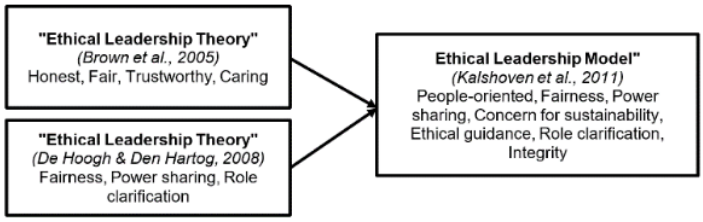


Source: (Li et al., 2016)

Figure 1 illustrates the seven dimensions of the principal's leadership model, which are instructional leadership, strategic management, teacher development leadership, staff management, resource management, external communication, and quality management. The instructional leadership dimension focuses on the principal's practices that create school-wide standards and priorities for teaching and learning. Leaders who practice this leadership consistently encourage staff to look for new teaching ideas, develop measurement methods that enhance student learning, and set high standards for student academic achievement (Li et al., 2016). The strategic management dimension focuses on integrating system goals, school-level priorities, and staff behaviours. School administrators, especially principals, should keep up with policy changes to strengthen accountability mechanisms in the education system (Leithwood et al., 2008). Teacher development leadership includes processes and initiatives aimed at improving the quality of teaching and learning, providing ongoing support for teachers' professional growth, and fostering opportunities for self-improvement.

The next dimension of quality management has emerged as a prominent aspect of international education reform in recent years, marked by the implementation of various rewards and incentives, together with a more structured approach to teacher evaluation aimed at improving school performance (Hallinger et al., 2014). The dimension of staff management involves the principal's efforts to motivate and improve the competence of teachers to promote school improvement and student success (Walker & Ko, 2011). The resource management dimension focuses on the practice of acquiring and using resources to directly improve teaching and learning. The last dimension is external communication. The importance of principals in creating and maintaining support for schools has long been recognized. According to Leithwood et al. (2008), principals who cannot maintain open communication with the local community risk losing the support of their staff. Kalshoven et al. (2011) developed the ethical leadership model based on prior research by Brown et al. (2005) and De Hoogh & Den Hartog (2008). This model is based on seven main dimensions: people-oriented, fairness, power sharing, concern for sustainability, ethical guidance, role clarity, and integrity.

Figure 2: The Ethical Leadership Model



Source: (Brown et al., 2005; De Hoogh & Den Hartog, 2008; Kalshoven et al., 2011)

Figure 2 depicts the dimensions of the ethical leadership framework. The first dimension, which is people-oriented, reflects a leader who cares, respects and supports subordinates, ensuring their needs are met. Fairness is seen as a crucial behaviour in ethical leadership, where leaders act with integrity and treat others fairly. Power sharing refers to leaders who give followers the right to voice their opinions. Concern for sustainability encompasses sustainability issues, considering the impact of actions beyond the scope of the workgroup and showing concern for the welfare of the community. Ethical guidance is about leaders who consistently guide in setting priorities and addressing ethical dilemmas faced by their employees. Role clarification is also important in explaining the goals and performance expectations of a leader in their organization. The last dimension, integrity, refers to someone who adheres to promises and acts correctly through a combination of pure values, especially towards oneself and the organization.

Based on the principal's leadership model and the ethical leadership model, it can be formulated that the practice of principal leadership aligns with the ethical leadership model, which encourages good communication, enforces rules and guidelines, and makes efficient decisions. This model also focuses on humans and requires leaders with high knowledge and a strong desire to lead. Furthermore, good relationships with parents and the local community are essential aspects that school leaders practicing ethical leadership should cultivate. Several past studies indicate that ethical leadership practices need to be implemented in schools by administrators, particularly principals. A study by Vikaraman (2019) showed that the level of ethical leadership practice was high. Another study by Nor Farhana (2021) also indicated that the ethical leadership practice of principals towards the welfare, needs, and attention of teachers was at a high level. Meanwhile, Ahmad Fakhri (2021) found that the overall integrity leadership practice of administrators was moderate. These findings indicate that principals consistently practice ethical leadership in schools. The ethical practice of principals is associated with the needs of teachers, especially in terms of welfare and clear relationships. Ethical leaders need to have high integrity values so that all decisions and actions made gain the trust of the school community. These research findings provide a clear view that ethical leadership is crucial to be practiced by school administrators, especially principals.

2. Content Validity

Validity is a crucial aspect of any measurement instrument because it ensures that the tool accurately assesses the intended variable (Field, 2018). Instruments that are properly validated are known to maintain characteristics that are significant, useful, accurate, suitable, and dependable (DeVellis, 2017). Consequently, the validation process must be meticulously executed to develop a tool that is fit for use (Ghazali & Sufean, 2016). Validity is typically divided into various types, including face, content, criterion, and construct validity, each designed to fulfill a specific function and objective (Taherdoost, 2016). Content validity is the initial step in the validation process of an instrument, alongside construct validity and criterion validity. Content validity involves evaluating whether each item in the instrument aligns with the intended use of that instrument (Mohammad Rahim et al., 2017a). The two main elements focused on during the content validity process are the relevance and representativeness of the items in measuring what the researcher aims to measure (Mohammad Rahim et al., 2017b). In this study, the researcher decided to use Lawshe's Content Validity Ratio (CVR) method, which has been shown to have various advantages over other methodologies. The CVR technique has several advantages over other content validity methods, including transparency, simplicity, and use. The CVR's easy computations and the availability of predetermined critical cut-off values make it easier to use (Mohammed Afandi et al., 2020).

The CVR method is a quantitative approach developed by Charles Lawshe in 1975. It is a method for measuring the consensus among evaluators regarding the importance of an item in an instrument. Compared to other alternative methods for determining content validity such as Cohen's Kappa; Tinsley - Weiss T Index; and James, Demaree & Wolf Index, the CVR method is seen as clearer, user-friendly, and easier to implement. The CVR method has also been widely used by researchers both locally and internationally as a preliminary step in the process of instrument preparation (Mohd Effendi et al., 2017). To use the CVR method, Lawshe C. H. (1975) suggests that each expert should assess each item based on its level of importance: (1) essential, (2) useful but not essential, and (3) not necessary. Content validity is then determined using a formula where

the CVR is the value ratio of the item's content validity, n_e is the number of expert panel members and N is the total number of expert panel members involved.

$$CVR = \frac{n_e - (N/2)}{N/2}$$

As a result of the calculation using the formula, a CVR value will be obtained which will be in the range of -1 to +1. A value close to +1 indicates that experts agree that the item is very important in the content validity process performed. On the other hand, if the CVR value is less than zero, it indicates that less than half of the expert panel believes that the measurement item is very important (Cohen & Swerdlik, 2010). The CVR value for each item will then be compared with the critical value based on the table by Lawshe (1975). In this study, the critical value set for five experts is 0.99. If the CVR value calculated for an item is less than this critical threshold, then follow-up actions need to be taken for the item, either corrected or considered to be dropped from the instrument (Almanasreh et al., 2019).

Methodology

This study employs a quantitative method in the form of a questionnaire survey. Purposive sampling techniques were used to choose the respondents according to their expertise. The respondents for this study were specialists in related fields who were able to provide detailed evaluations on the item review procedure. The expert term is also known as the *Content Evaluation Panel*. The study divides experts into two categories, namely professional experts and field experts (Rubio et al., 2003). Professional experts are those who are directly involved in research or have published related articles, whereas field experts have specific skills or knowledge in the topic under study. Since this study is related to educational leadership, the experts chosen are individuals who are directly involved in this field.

This study sets several criteria that must be met for the selection of experts. For professional experts, aspects of academic qualifications and publications have been made the main selection criteria (Powell, 2003). Professional experts for this study must have the academic qualification of Doctor of Philosophy and be active in writing, publishing or teaching. For field experts, the qualification aspect is given some flexibility, but it is necessary to have sufficient experience. Field experts for this study are required to have at least a master's degree, be active in writing and have more than ten years of experience in the field. In addition, this study also requires full consent from experts for involvement in the study. For the purpose of data collection, this study uses online approaches, according to the comfort and needs of experts. At the initial stage, experts were contacted via email by researcher to obtain consent and explaining the purpose of the study. This study contacted ten experts to be a panel, but only five agreed. However, this amount is sufficient for this study to be done. (Allahyari et al., 2011; Lawshe, 1975; Rubio et al., 2003). In terms of instrumentation, this study uses a set of questionnaires based on Lawshe (1975).

The survey used consists of two parts, namely A and B. Part A is a survey related to the demographic profile of expert panellists, which consists of six items. Part B, on the other hand, is a content validity review survey consisting of 38 items from seven constructs related to the ethical leadership practices of principals that have been identified and adapted from past studies (Kalshoven et al., 2011; Vikaraman, 2019). The seven constructs used in this instrument are human orientation (7 items), justice (6 items), power sharing (6 items), concern for sustainability (3 items), ethical guidance (7 items), role clarification (5 items), and integrity (4 items). Each expert reviews all items by assessing the importance level of each item based on a 3-point scale: 1 (very important), 2 (useful but not important), and 3 (not necessary). A qualitative feedback section is also provided for each item to allow experts to make corrections or provide any suggestions for improvements. At the end of Part B, a special section is also provided for experts to summarize their thoughts on the instrument and items as a whole, whether they are suitable for use or not. For this assessment, the expert panel was given two weeks to a month to complete the questionnaire. The expert evaluation results are calculated using a formula to determine content validity. Each item will have its own CVR value, which will be compared to the

critical value that must be achieved. Because this study employs five experts, the critical value, that must be met for each item to prevent being dropped is 1.000 (Ayre & Scally, 2014).

The Findings

Overall, this study has confirmed the content of the principal's ethical leadership instrument consisting of 38 items. A total of five experts were directly involved, consisting of 4 male experts and one female expert. All experts have doctorate degrees in their respective fields. All experts have extensive experience in their respective fields with a minimum period of 7 years. They are also still active in the service, where one expert is serving in the Teacher Professionalism Division (BPG), Ministry of Education (KPM), one expert is serving in the Sarawak State Education Department, while three others are serving as principals in national secondary schools in Malaysia.

RQ1: What is the validity value of the items in the principal's ethical leadership practice measurement instrument?

Table 1: Distribution Of CVR Items

CVR	No. Item	Item	Action
1.000	34	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36	Accepted
< 1.000	4	11, 32, 37, 38	Reassessed

Table I shows the distribution of CVR values obtained for each item. Based on the expert's validity, the calculation of the CVR value for each item was done and found that six items did not reach the critical value. 34 items have got the maximum value of CVR which is 1.000 which means all 5 experts agree that the item is very important. There are four items that recorded a CVR value of less than 1.000. This means that there are experts who disagree about the essential of these items in the instrument. It can be summarized that the CVR values for these 38 items clearly show a consensus among the majority of experts that these items are essential to be retained in the instrument.

Table 2: List Of Item That Do Not Meet The Critical Value Of CVR

Item	Questions	CVR	Suggestion
11	My principal pursues self-success by using his own financial resources	-0.200	Dropped
32	My principal always explains what is expected of me and my colleagues.	0.600	Corrected
37	My principal can be trusted to fulfill his commitments.	0.200	Corrected
38	My principal can keep his/her word.	0.200	Corrected

Table 2 shows in detail the four items that do not meet the required critical CVR value. The recorded CVR values range from -0.200 to 0.600. Item 11 recorded a negative CVR value, which is -0.200, while two items (item 37 and 38) recorded a CVR value of 0.200. Item 32 recorded a CVR value of 0.600. CVR values lower than the required critical CVR value indicate that these items are not essential and may pose retention issues in the instrument. For these items, (Lawshe, 1975) suggests two approaches: either reassessing the items or completely removing them from the instrument.

Based on expert feedback, four items with low CVR values are identified as potentially problematic. The expert panel highlighted two major issues that require attention. The first issue concerns item 11, which

is not clearly stated in the description of one of the constructs. Three out of five experts believe that this item is not stated in the construct description and is unrelated to the construct, suggesting that the item should be dropped. Meanwhile, two experts believe that the item needs to be changed based on the construct description. The second feedback from the experts relates to the issue of item repetition within other items. Items 32, 37, and 38 are recognized by experts as important but require minor improvements if they are to be retained to ensure the instrument remains of high quality. Items 32, 37, and 38 are repetitive of other measurement items. Although their construction differs, the experts believe these three items have meanings similar to other items. The phrase "me and my colleagues." in item 32 is the same as "every teacher" in item 30, and experts suggest a rephrasing is necessary. The phrase "keep the promise" in item 35 has the same meaning as "keep his/her word" in item 38. For item 37, the word "fulfill" is nearly the same as "implement" in item 36. The majority of experts recommend that the sentence structures of these items be reviewed and corrected to provide meanings that differ from the other items.

RQ2: Is the instrument suitable for use in the context of school leaders in Malaysia?

Table 3: Feedback On The Suitability Of The Instrument

Summary / Experts	Ex.1	Ex.2	Ex.3	Ex.4	Ex.5	Total
Suitable & Relevant	•	•	•	•	•	5
Needs improvement	•	•	•	•	•	5

*Ex. = Expert

For the second question, the qualitative feedback from experts indicates that all five experts generally believe that the items in the measurement instrument for principals' ethical leadership practices are suitable for use in the study. Table 3 shows the feedback from experts on the suitability of the instrument. The experts' consensus on the suitability of the instrument can be seen when all experts agree that all items and constructs in the instrument are within the context of the targeted study. All experts have suggested that problematic items be assessed first before this instrument is administered to the next stage, which is the pilot study, to obtain the reliability value of the instrument. Generally, they still agree that this instrument is suitable and relevant in the context of the study to be conducted. These findings clearly show that the items in the measurement of principals' ethical leadership practices are suitable and relevant for use in the context of school leaders in Malaysia.

Discussion

The results highlight the quality and strength of the validation process undertaken. The diversity in study findings and comprehensive feedback from experts on all 38 initial items demonstrate the meticulous and thorough content validity process conducted by the expert panel. This process has contributed to the development of items with considerable potential for use in the specified context. Moreover, the carefully executed content validity process has yielded a more solid content validity value compared to methods employed by previous researchers. Unlike the qualitative methods used by local researchers in the context of the study, the use of the CVR method provides a more convincing interpretation with strong empirical evidence (George et al., 2015a). Qualitative approaches are seen to have challenges and limitations in the validation process due to less precise results when dealing with a large number of items (Ali et al., 2014). Moreover, the application of the CVR method in this study enhances the quality of the content validation process by engaging a diverse array of experts in terms of both quantity and background. The diversity of experts from various backgrounds indirectly reinforces the validity of the process and instills confidence in others regarding the instrument's validity, clarity, and alignment with its intended purpose (Yaghmale, 2003).

Regarding the issue of problematic items, the researcher decided to dropped one item as suggested by the experts. This decision was made because there was clear evidence that the item was not clearly stated in the construct description and did not align with the construct. After thorough examination, the researcher

found that the item would cause confusion among respondents regarding its necessity within the construct. According to Boynton & Greenhalgh (2004), such issues should be avoided in an instrument as they can compromise the quality of the instrument and affect the respondents involved. For three items that have issues with item repetition due to nearly identical sentence structures, improvements will be made. Although these three items have repetition problems, they can be restructured by rephrasing sentences based on the construction description. Experts also recommend that these three items be improved due to their importance in the involved construct. This indicates that despite the repetition of items, their importance within the instrument must be considered (Mohammed Afandi et al., 2022). Seeing this, the researcher decides to improve these three items. The three items are then combined with 34 other items before the pilot study is conducted. Yet, the refinement and enhancement process doesn't solely focus on the three problematic items; it encompasses all items, guided by expert input and recommendations. Every feedback received has been meticulously reviewed and adequately dealt with by the researcher. The revised items will form the basis of the pilot study. Consequently, of the initial 38 items prepared for this study, only 37 will proceed for further action.

Based on the qualitative findings obtained, this study can confirm the measurement instrument for the practice of ethical leadership among principals, which is based on seven constructs: people orientation, fairness, power sharing, concern for sustainability, ethical guidance, role clarification, and integrity. All experts agree that most items related to the seven constructs are crucial and relevant for evaluating ethical leadership among principals in Malaysia. The fact that no new items or constructs were proposed indicates that this instrument is consistent with previous research (Ilham, 2015; Vikaraman, 2019). The experts' conclusion, which confirms the suitability of most items, also serves as evidence that the instrument aligns with the study's context. Although one item was omitted due to its lack of relevance to the construct, critiques and feedback primarily address sentence structure and item repetition. Additionally, the consensus among experts strongly indicates that proceeding with a pilot study is a positive sign that this instrument is appropriate and pertinent for research involving teachers in Malaysia.

Conclusion

This study aims to assess the content validity of a measurement instrument for ethical leadership practices among principals in Malaysia. Following the validity process, only four items were found to have a Content Validity Ratio (CVR) lower than the critical value. The findings indicate that this instrument effectively evaluates ethical leadership practices among school administrators within the Malaysian educational context. The researchers suggest that this instrument shows promise as a valid and reliable tool for measuring ethical leadership practices among principals in Malaysia. Expert opinion supports the CVR approach, providing empirical evidence for the instrument's validity. Consequently, decisions regarding item retention, improvement, or elimination can be confidently made following a CVR analysis. In summary, this study confirms the high content validity of the adapted instrument for measuring ethical leadership among principals. However, it is still in the developmental phase and requires further investigation, particularly regarding its psychometric properties. Therefore, the next step involves conducting a pilot test to assess the instrument's reliability. It is recommended that all 37 refined items undergo a pilot study, with thorough statistical analysis to examine each item comprehensively.

Acknowledgement: The financial support from the Ministry of Education [KPM.BT.700-30/22/41 (5)] is gratefully acknowledged. Furthermore, this study could represent a continuation of research conducted the previous year. Therefore, the researcher extends sincere appreciation to the institutions and affiliated parties whose support facilitated the successful execution of this study.

Conflicts of Interest: We would like to declare that there are no conflicts of interest associated with this publication. All authors have been fully informed and actively participated in the study.

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