

Development and Validation Of The Structural Model Of Leadership Characteristics Among High School Directors In Cambodia

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Abstract.

The study addressed four objectives: to identify the leadership characteristics reported by Cambodian high school directors; to examine whether those characteristics differed by age, gender, educational qualification, and work experience; to estimate the statistical contribution of the nine characteristics to the modeled outcome; and to develop a leadership characteristics model for school directors in Cambodia. The study used a quantitative design with 130 high school directors. The researcher developed the questionnaire from the Survey of Transformational Leadership framework, established instrument validity, used back-translation and field testing for the Khmer versions, and obtained expert feedback through a focus group while developing the leadership characteristics model. This study used descriptive and inferential procedures to analyze the data. The principal results were: (1) Cambodian school directors' leadership characteristics were high ($M = 3.96$, $SD = 0.37$). Among the nine characteristics, Inspirational Motivation had the highest mean score ($M = 4.20$, $SD = 0.40$), while Supports Others had the lowest ($M = 3.51$, $SD = 0.39$). Ranked from highest to lowest mean scores, the characteristics were Inspirational Motivation, Encourages Innovation, Expects Excellence, Integrity, Task Delegation, Develops Others, Sensible Risk, Demonstrates Innovation, and Supports Others; (2) the results indicated that leadership characteristics did not differ significantly according to gender ($p = .755$), age ($p = .059$), or educational qualification ($p = .678$). However, work experience differed significantly ($p = .024$); (3) multiple regression analysis indicated that the manuscript reported statistically significant associations for all nine predictors at the .05 level; these coefficients and p-values should be checked against the original regression output before publication. The regression model produced $R = .859$, $R^2 = .738$, and Adjusted $R^2 = .718$, indicating that the nine characteristics collectively explained 73.8% of the observed variance in the dependent variable, with an adjusted estimate of 71.8%; and (4) based on the empirical findings, the researcher developed a leadership characteristics model and subsequently had experts review it. The model was proposed as a framework to support the continuing professional development of Cambodian high school directors and could also be used as a reference for developing teacher leaders and deputy school directors. Because other factors may influence school directors' leadership characteristics, future research should examine additional personal, organizational, and contextual factors that may contribute to leadership development.

Keywords: Transformational Leadership, Leadership Characteristics, Leadership Characteristics Model, High School Directors.

I. INTRODUCTION

School leadership matters because the director's decisions largely shape a school's direction, professional relationships, and work environment. A director's role extends beyond administrative compliance. It includes setting priorities, interpreting education policy, coordinating limited resources, supporting teachers, responding to emerging problems, and building a shared commitment to school improvement. These responsibilities call for sound judgment and more than formal authority: directors must earn trust, communicate purpose, encourage professional contribution, and maintain clear expectations (Hangchuon, 2017; Lim, 2023). Cambodian research on public high school principals similarly identifies role-modeling, motivation, intellectual stimulation, coaching, and trust-based relationships as priorities for leadership development (Chheang et al., 2023; Em et al., 2024; Lim, 2023; Mok et al., 2018; Yi et al., 2026). Understanding school leadership therefore requires attention not only to a director's position, but also to the characteristics demonstrated through everyday decisions and relationships (Chamraeun et al., 2026; Pann et al., 2026).

Research on educational leadership offers a useful starting point for examining these responsibilities. Leithwood and Riehl (2005) identify setting direction, developing people, and redesigning the organization as important functions of successful school leadership. Their framework highlights that leadership influences both the people who work in a school and the organizational conditions in which they work. Kouzes and Posner (1987) similarly emphasize modeling values, inspiring a shared vision, challenging established practices, enabling others to act, and encouraging collective effort. Although these approaches use different

language, they converge on a practical proposition: school improvement depends on credible leadership, a clear sense of purpose, continuous learning, and the active participation of others. These functions matter most when directors must translate broad policy goals into daily school practice. This is particularly relevant in Cambodia, where national education strategies emphasize education quality, governance, professionalism, and accountability (Hangchuon, 2017; Ministry of Education, Youth and Sport [MoEYS], 2024, Pann et al., 2026).

Transformational leadership provides the principal theoretical foundation for this study. Burns (1978) distinguished exchange-based leadership from leadership that seeks to elevate motivation and commitment around shared purposes. Bass subsequently developed the transformational leadership approach; Bass and Riggio (2006) describe four established dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence concerns credibility and role-modeling; inspirational motivation concerns communicating purpose and encouraging commitment; intellectual stimulation promotes questioning, creativity, and problem-solving; and individualized consideration emphasizes attention to people's needs and development. Taken together, these dimensions help explain how leaders can shape professional effort through trust, meaning, learning, and support—not solely through rules or positional power.

The dimensions are related, but they should not be treated as identical. A director may demonstrate integrity yet be cautious about new practices; another may communicate ambitious goals but provide insufficient support for staff growth. Looking at leadership characteristics separately can reveal strengths and development needs that an overall score may obscure. Educational leadership perspectives complement transformational theory by highlighting direction-setting, professional capacity, and the structures that enable improvement (Leithwood & Riehl, 2005). For this reason, the present study views leadership as both relational and practical: it concerns how directors influence colleagues and distribute responsibility, support professional work, and sustain expectations.

This study examines nine leadership characteristics among Cambodian high school directors: Integrity, Sensible Risk, Encourages Innovation, Demonstrates Innovation, Inspirational Motivation, Supports Others, Develops Others, Task Delegation, and Expects Excellence. Each characteristic represents a distinct aspect of reported leadership practice. Integrity refers to ethical, consistent conduct that builds confidence. Sensible Risk concerns judgment when decisions involve uncertainty. Encourages Innovation focuses on inviting ideas and supporting improvement, whereas Demonstrates Innovation concerns modeling innovative action. Inspirational Motivation involves communicating a shared purpose and collective commitment. Supporting Others and Developing Others concern assistance, encouragement, coaching, and professional growth. Task Delegation concerns distributing responsibility, while Expects Excellence concerns the performance standards communicated.

This research developed an analytical framework aligning these nine characteristics with established leadership theories; it does not claim that earlier scholars proposed this exact nine-part model. Integrity and Sensible Risk are conceptually linked to idealized influence; Encourages Innovation and Demonstrates Innovation to intellectual stimulation; Inspirational Motivation to the transformational dimension of the same name; and Supports Others and Develops Others to individualized consideration. Task Delegation and Expects Excellence are included as complementary practices associated with empowerment, shared responsibility, and performance expectations. They are not presented as two additional original dimensions in Bass and Riggio's (2006) transformational leadership framework. Making this distinction explicit strengthens the study's conceptual basis and avoids conflating established theory with the researcher's operational choices.

Operationalizing broad ideas as defined characteristics allows for systematic examination of leadership. In this study, the characteristics are considered in relation to their reported levels, differences across selected demographic and professional groups, and combined statistical contribution to the outcome specified in the research model. Their conceptual relationships do not mean that they are interchangeable; nor does a statistical association establish that one characteristic causes a particular outcome. Interpretation

must take account of the questionnaire, sampling approach, model specification, and assumptions underlying the analyses.

The Cambodian context frames this inquiry. High school directors must respond to national education priorities while managing the practical demands of school administration, teacher support, resource coordination, and local improvement. Research in Cambodian secondary resource schools have also examined directors' instructional leadership and its relationship with teacher commitment, highlighting the importance of leadership practices within local school settings (Khan et al., 2024). These demands can involve balancing accountability with support, established procedures with innovation, and clear direction with staff participation. International theories offer valuable concepts, but they cannot predict which characteristics are most evident among Cambodian directors or whether patterns vary across professional and demographic groups. Answering those questions requires evidence from the studied population and context. Cambodian studies have already examined principals' transformational leadership and teachers' perceptions, but have used different samples, dimensions, and geographic scopes (Chheang et al., 2023; Em et al., 2024, 2025).

The research problem is therefore specific, not a claim that leadership research is absent in Cambodia. The study examines nine characteristics together, makes their conceptual relationship to established theories explicit, and investigates reported differences by gender, age, educational qualification, and work experience. It also examines the characteristics' combined statistical contribution within the specified model. This approach aims to provide a more focused, evidence-informed account of leadership practice among Cambodian high school directors and a basis for developing a context-specific model for further testing.

The study aims to develop a Leadership Characteristics Model for Cambodian high school directors by linking established leadership perspectives with empirical findings. The study seeks to: (a) describe the reported levels of the nine characteristics; (b) examine whether they differ by gender, age, educational qualification, and work experience; (c) assess their combined statistical contribution to the leadership outcome specified in the research model; and (d) synthesize the theoretical and empirical results into a model relevant to Cambodian high schools.

Four research questions guide the investigation: (1) What are the current reported levels of the nine leadership characteristics among Cambodian high school directors? (2) Do the reported characteristics differ according to directors' gender, age, educational qualification, and work experience? (3) To what extent do the nine characteristics jointly contribute statistically to the outcome examined in the research model? (4) How can the findings and relevant leadership theories be synthesized into a Leadership Characteristics Model for Cambodian high school directors? Together, these questions move from description to comparison and statistical examination, and then to model development.

The study contributes conceptually, empirically, and practically. Conceptually, it links transformational leadership with complementary practices involving delegation and expectations for excellence, while distinguishing the researcher-developed framework from the original transformational dimensions. Empirically, it examines questionnaire data collected in 2024 from 130 high school directors in Phnom Penh and three provinces. Practically, the results may help identify relatively strong characteristics in reported practice and areas that may merit professional reflection or development. The proposed model is intended for this specific context; further research should examine its applicability to other populations.

The scope of the study should also be clear. It examines directors' reported leadership characteristics, rather than directly measuring classroom practice, student achievement, or school effectiveness across Cambodia: the sample and 2024 data-collection period limit generalization beyond the participating directors and settings. If the instrument relies on self-report, responses may reflect participants' perceptions and may not fully represent teachers' or independent observers' assessments. A cross-sectional design also cannot establish causal direction. These limitations do not diminish the study's value; they define the claims its evidence can reasonably support and point to the need for future validation using additional samples, multiple sources, and school-level outcomes.

In summary, this research combines established leadership concepts, a clearly defined set of nine characteristics, and empirical evidence from Cambodian high school directors. Transformational leadership helps explain role modeling, motivation, innovation, and individual support, while educational leadership scholarship emphasizes direction setting, people development, and organizational conditions. The proposed framework explicitly highlights delegation and performance expectations as complementary practices. By describing the characteristics, examining group differences, and assessing their combined statistical contribution, the study seeks to provide a clearer foundation for leadership development and for further testing of a Leadership Characteristics Model in Cambodian high schools.

II. LITERATURE REVIEW

School leadership is central to educational quality because directors shape priorities, working relationships, and the organizational conditions in which teaching and learning occur. Their responsibilities extend beyond supervising daily operations. They must communicate a clear direction, coordinate people and resources, support teachers' professional work, respond to challenges, and sustain collective attention to school improvement. Leithwood and Riehl (2005) identify setting direction, developing people, and redesigning the organization as central functions of successful school leadership. These functions provide a useful basis for examining school directorship because they link a leader's conduct to the broader conditions teachers and schools need to improve.

Leadership is not, however, a single behavior or personal attribute. It involves how a leader's values, decisions, relationships, and influence interact within a particular organization. A director may have formal authority but still need to earn professional trust, explain decisions, invite staff participation, and create a shared understanding of school goals. Leadership effectiveness therefore cannot be understood solely through position or administrative responsibility. It also depends on how leaders guide colleagues, respond to new demands, and create conditions for staff to contribute to school development. These considerations make it useful to examine leadership through identifiable characteristics rather than relying only on broad descriptions of leadership style.

Transformational leadership provides the principal theoretical foundation for the present study. Burns (1978) distinguished between transactional leadership, which emphasizes exchanges between leaders and followers, and transformational leadership, which elevates motivation and commitment around shared purposes. Bass subsequently developed the theory, and Bass and Riggio (2006) describe four widely recognized dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. The dimensions are related, but each highlights a different aspect of leadership practice. Together, they explain how leaders influence followers through credible conduct, a shared purpose, encouragement of new thinking, and attention to individual development.

Idealized influence concerns the extent to which leaders demonstrate conduct that earns respect and serves as a model for others. In a school setting, this may be expressed through integrity, consistency, accountability, and responsible decisions, including the willingness to consider risks carefully. Inspirational motivation involves communicating a meaningful vision and encouraging staff to work toward common goals. It helps colleagues understand why school improvement matters and how their work contributes to a broader purpose. Intellectual stimulation emphasizes questioning established practices, considering alternative approaches, and encouraging problem-solving. Individualized consideration focuses on recognizing differences among staff members, providing support, and helping people strengthen their professional capabilities (Bass & Riggio, 2006). These dimensions provide a conceptual vocabulary for examining leadership behaviors in schools, although their practical expression may differ across organizational and cultural settings.

Educational leadership research complements transformational leadership by situating these behaviors within school organization. Leithwood and Riehl (2005) emphasize that leaders influence schools by establishing direction, developing people, and creating organizational conditions that support teaching and learning. Kouzes and Posner (1987) also describe leadership practices that include modeling appropriate conduct, inspiring a shared vision, challenging existing processes, enabling others to act, and encouraging

collective effort. These perspectives converge on the importance of credibility, motivation, improvement, collaboration, and professional capacity. They also suggest that leaders demonstrate leadership through observable actions, not simply through stated intentions. For school directors, this means a commitment to improvement must be matched by decisions and practices that enable teachers to participate.

At the same time, the literature does not justify assuming that a leadership practice will have the same meaning or effect in every education system. Schools operate within particular policy arrangements, resource conditions, professional expectations, and community relationships. A leadership approach developed or tested in one setting may offer valuable concepts but still require contextual examination before it can be applied elsewhere. For this reason, international leadership theories should guide inquiry into Cambodian schools without replacing the need for evidence from the Cambodian context. The present study adopts this position by using established theory as a foundation while examining specific characteristics among Cambodian high school directors.

This research translates the theoretical literature into nine leadership characteristics: Integrity, Sensible Risk, Encourages Innovation, Demonstrates Innovation, Inspirational Motivation, Supports Others, Develops Others, Task Delegation, and Expects Excellence. These characteristics provide a more detailed framework for examining the leadership practices addressed in the study. Integrity concerns ethical and trustworthy conduct, while Sensible Risk concerns the judgment involved in making decisions under uncertainty. Encourages Innovation focuses on whether a director invites new ideas and supports improvement; Demonstrates Innovation concerns whether the director models innovative practice. Inspirational Motivation addresses communicating purpose and encouraging collective commitment. Supports Others and Develops Others concern providing assistance, guidance, coaching, and opportunities for professional growth. Task Delegation concerns distributing responsibility, while Expects Excellence concerns the standards and expectations communicated for professional performance.

The relationship between these nine characteristics and established theory is an analytical framework developed for this research, rather than a claim that previous scholars proposed the same nine-characteristic model. Integrity and Sensible Risk are conceptually linked to idealized influence; Encourages Innovation and Demonstrates Innovation are linked to intellectual stimulation; and Inspirational Motivation retains the corresponding transformational leadership dimension. Supports Others and Develops Others are associated with individualized consideration. Task Delegation and Expects Excellence are treated as complementary empowerment-related practices because they concern shared responsibility and performance expectations. Empowerment is not one of Bass and Riggio's (2006) four original transformational leadership dimensions; its inclusion broadens the study's framework to address relevant school leadership practices. The alignment draws conceptually on transformational leadership and wider educational leadership perspectives (Bass & Riggio, 2006; Kouzes & Posner, 1987; Leithwood & Riehl, 2005).

This operationalization is important for both theoretical clarity and empirical analysis. Broad theories help explain why leadership matters, but research also requires a clear account of what it measures. Treating the nine characteristics as distinct dimensions lets the study describe their reported levels individually, examine whether patterns vary across demographic and professional groups, and assess their combined statistical contribution within the specified model. The characteristics may be related, but researchers should not treat them as interchangeable without empirical support. Similarly, in a questionnaire-based study, interpret statistical relationships as associations or contributions within the fitted model, not as proof that a characteristic causes better school outcomes.

The Cambodian setting makes this investigation particularly relevant. High school directors lead schools within national education priorities while managing local operational demands and professional relationships. Their work may require them to maintain standards, encourage improvement, support teachers, and allocate responsibilities in circumstances shaped by local needs and available resources. However, general international frameworks cannot, on their own, determine which characteristics are most evident among Cambodian directors or whether directors with different demographic and professional backgrounds report different patterns. Answering these questions requires evidence collected from the study population and setting. Recent Cambodian research has also validated innovative-vision and innovative-personality

frameworks for high school directors, providing relevant context for the innovation dimensions in the present study (Hab et al., 2026a, 2026b). Therefore, interpret findings from Cambodia in relation to the study's sample, measures, and design, rather than automatically generalizing them to every school or education system.

The literature reviewed here establishes a rationale for the present research in three connected ways. First, transformational and educational leadership theories provide a foundation for understanding direction-setting, role-modeling, motivation, innovation, staff development, and organizational improvement. Second, the context-sensitive nature of school leadership supports investigating these practices among Cambodian high school directors rather than assuming that findings from other countries apply without qualification. Third, a researcher-developed framework can connect established concepts with nine specific, measurable characteristics, allowing a more differentiated examination of leadership practices and their statistical relationships. Accordingly, the study examines the nine characteristics, considers variation according to selected demographic and professional factors, and uses the findings to develop a Leadership Characteristics Model for Cambodian high school directors. The model is a context-specific contribution grounded in the study's evidence; further testing with other samples and settings should assess its broader applicability.

III. METHODS

Research Design and Participants

This study employed a quantitative survey design to examine leadership characteristics among Cambodian high school directors and to develop an empirically informed Leadership Characteristics Model. A quantitative approach was appropriate because the study sought to describe reported leadership practices, compare responses across selected demographic and professional groups, and estimate the combined statistical contribution of the characteristics within the specified research model. The study focused on directors' reported practices rather than direct observations of leadership behavior or independent measures of school effectiveness.

The study included 130 directors of Cambodian high schools. The researchers collected data in 2024 from Phnom Penh and three provinces, across four study areas. The participating directors completed the questionnaire used for the descriptive, group-comparison, and regression analyses. The information available for this revision did not specify the sampling frame, recruitment procedure, response rate, or whether participants were selected through probability or non-probability sampling; therefore, we do not assume these details.

Table 1. *Demographic and Professional Characteristics of Participants (N = 130)*

Characteristic	Category	N	Percentage
Gender	Male	105	80.8
	Female	25	19.2
Age	Below 40 years	23	17.7
	40–50 years	42	32.3
	More than 50 years	65	50.0
Education	Below bachelor's degree	16	12.3
	Bachelor's degree	42	32.3
	Higher than bachelor's degree	72	55.4
Experience as director	Below 10 years	32	24.6
	10–20 years	56	43.1
	More than 20 years	42	32.3
Study area	Phnom Penh	41	31.5
	Siem Reap	46	35.4
	Kampot	24	18.5
	Plateau/Mountain	19	14.6

Research Instrument and Operational Definitions

This study used a questionnaire adapted from the Survey of Transformational Leadership (STL) and informed by the theoretical framework of transformational and educational leadership. The instrument operationalized nine leadership characteristics: Integrity, Sensible Risk, Encourages Innovation,

Demonstrates Innovation, Inspirational Motivation, Supports Others, Develops Others, Task Delegation, and Expects Excellence. These characteristics were treated as related but distinguishable aspects of directors' reported leadership practice.

The questionnaire's conceptual structure drew on the four commonly recognized dimensions of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. This study conceptually aligned Integrity and Sensible Risk with idealized influence; Encourages Innovation and Demonstrates Innovation with intellectual stimulation; Inspirational Motivation with inspirational motivation; and Supports Others and Develops Others with individualized consideration. The study treated Task Delegation as a complementary empowerment or distributed-practice characteristic. The study also included Expects Excellence as a study-specific characteristic related to performance expectations. This operational mapping is the framework used in the present study and should not be mistaken for a claim that all nine characteristics are original dimensions of the STL.

Before administration, the questionnaire was reviewed for validity, translated and back-translated, and field-tested in Khmer. An expert focus group also reviewed the proposed model. These procedures were intended to improve the instrument's clarity and contextual suitability. The available manuscript does not report the number and qualifications of reviewers, the field-test sample, the response-scale anchors, or reliability coefficients; these should be reported only after confirming the study records.

Data Collection and Analysis

Survey data were collected from participating directors during 2024. The questionnaire responses formed the analysis dataset. The material available for this revision did not specify the mode of administration, exact data-collection dates, consent process, institutional approval, or data-protection procedures, and we did not infer these.

The analysis proceeded in stages aligned with the research questions. First, this study used descriptive statistics to summarize participant characteristics and reported levels of the nine leadership characteristics. Means and standard deviations described the scale results. The overall reported mean across the characteristics was 3.96 (SD = 0.37); Inspirational Motivation had the highest reported mean (M = 4.20, SD = 0.40), while Supports Others had the lowest (M = 3.51, SD = 0.39). These descriptive results characterize responses in the study sample and should be interpreted in light of the questionnaire's response scale and scoring rules.

Second, inferential analyses examined differences in reported leadership-characteristic scores by gender, age, educational qualification, and work experience. The manuscript reports the relevant group-comparison results in the Results and Discussion section. Third, the study used multiple regression to estimate the combined statistical contribution of the nine characteristics to the dependent variable specified in the research model. The reported model statistics were $R = .859$, $R^2 = .738$, and adjusted $R^2 = .718$. These values indicate that the fitted model accounted for 73.8% of the observed variance in the dependent variable, with an adjusted estimate of 71.8%; they do not establish causation. The reported group-comparison results indicated a statistically significant difference for work experience ($p = .024$), while gender ($p = .755$), age ($p = .059$), and educational qualification ($p = .678$) did not meet the conventional .05 significance threshold. These results should be interpreted using the exact tests and final statistical output for each comparison. The regression coefficients and their p-values also require confirmation against the original output before publication.

Model Development and Methodological Limitations

Model development integrated the theoretical framework, the empirical pattern of the nine characteristics, and expert focus-group feedback. The resulting model is therefore a context-specific synthesis intended to organize the study's findings, rather than a claim that the proposed structure has already been independently validated in all Cambodian schools. Further testing with new samples and additional evidence sources would be needed to assess its stability and broader applicability.

Several methodological boundaries guide interpretation. The study relies on self-reported questionnaire data from 130 directors across four study areas, collected in a single period in 2024. Responses may reflect participants' perceptions and may not fully correspond to the views of teachers, students, or

external observers. The sample and geographical coverage also limit generalization to all Cambodian high school directors. In addition, a survey and regression analysis can identify patterns and statistical associations but cannot establish causal direction. The authors address these limitations by interpreting the findings in light of the study design and treating the proposed model as a basis for further validation. The reported information on the sampling procedure, instrument scoring, reliability, ethical procedures, and statistical diagnostics limits interpretation of the model. These details should be supplied from the original research records where available. The present analysis is interpreted as evidence of patterns and associations in the participating directors' responses, not as proof of causal effects or national representativeness.

VI. RESULT AND DISCUSSION

The Profile of Leadership Characteristics

The findings present a differentiated profile of leadership characteristics among 130 Cambodian high school directors. The overall mean was 3.96 (SD = 0.37), which falls within the study's designated high range. This result indicates that, on the questionnaire, participants generally reported frequent use of the nine leadership characteristics. The relatively modest overall standard deviation also suggests that responses clustered around the overall mean, although it does not imply that all directors displayed identical practices. Because the data reflect directors' questionnaire responses, the findings are best interpreted as reported leadership characteristics rather than independent proof of leadership effectiveness or school outcomes. Inspirational Motivation received the highest mean ($M = 4.20$, $SD = 0.40$), followed by Encourages Innovation ($M = 4.18$, $SD = 0.41$), Expects Excellence ($M = 4.17$, $SD = 0.42$), Integrity ($M = 4.16$, $SD = 0.35$), and Task Delegation ($M = 4.13$, $SD = 0.30$). These closely grouped scores suggest that participants reported particular strength in communicating purpose, inviting improvement, maintaining performance expectations, acting consistently, and distributing responsibilities. The small differences among the top five means should not be overstated as meaningful differences unless direct statistical comparisons between these dimensions were conducted.

Table 2. *Descriptive Statistics and Ranking of the Nine Leadership Characteristics*

Leadership characteristic	M	SD	Rank
Inspirational Motivation	4.2	0.4	1
Encourages Innovation	4.18	0.41	2
Expects Excellence	4.17	0.42	3
Integrity	4.16	0.35	4
Task Delegation	4.13	0.3	5
Develops Others	3.97	0.47	6
Sensible Risk	3.72	0.5	7
Demonstrates Innovation	3.69	0.59	8
Supports Others	3.51	0.39	9
Overall	3.96	0.37	—

The high score for Inspirational Motivation aligns with the view that leadership involves giving professional work a shared direction and helping colleagues see how their contributions connect to school goals. This interpretation aligns with Cambodian research that prioritizes inspiring and motivating teachers in developing principals' transformational leadership (Chheang et al., 2023). Within a school, a clearly communicated purpose can help coordinate teaching, administration, and improvement efforts. However, a high mean indicates a strong self-reported pattern; it does not independently show that staff understand the director's vision or that it produces measurable improvements in teaching and learning. Future research could compare directors' reports with teacher perceptions and school-level indicators.

Encourages Innovation and Expects Excellence also ranked near the top. Together, these results suggest respondents valued both improvement and standards. These practices can complement each other when directors encourage staff to explore better methods while maintaining clear expectations for the quality and purpose of change. Innovation without shared standards can become fragmented, whereas standards without openness to new approaches can discourage learning. The results therefore support a balanced interpretation: leadership development should help directors combine ambitious expectations with purposeful experimentation and feedback.

Comparatively Lower-Rated Characteristics

Supports Others had the lowest mean ($M = 3.51$, $SD = 0.39$), followed by Demonstrates Innovation ($M = 3.69$, $SD = 0.59$) and Sensible Risk ($M = 3.72$, $SD = 0.50$). Under the study's interpretation scheme, Supports Others remains at the lower boundary of the high category; it should not be described as absent or inherently weak. Nevertheless, its relative position identifies a potential priority for professional reflection. The gap between Inspirational Motivation and Supports Others is 0.69 points, indicating that directors reported stronger motivational practices than supportive practices as measured by this questionnaire.

This contrast is substantively important. Communicating a compelling direction is not necessarily the same as providing individualized assistance, coaching, timely feedback, or practical support when staff encounter difficulties. A director may motivate colleagues while still needing to strengthen the everyday conditions that help them succeed. Likewise, the lower relative scores for Demonstrates Innovation and Sensible Risk may point to a distinction between endorsing new ideas and implementing them, or between supporting improvement in principle and making carefully considered decisions under uncertainty. These interpretations are plausible implications of the score pattern, not directly tested explanations.

Related evidence from Cambodia further highlights the importance of supportive school environments. Pann et al. (2026) examined the relationship between organizational culture and quality of work life among 760 high school teachers. They reported a strong positive relationship between the two constructs, including positive associations involving a healthy and supportive work environment, administrative support and career development, and collegial relationships. Although that study focused on teachers' work-life quality rather than directors' leadership characteristics, its findings provide relevant contextual support for strengthening staff support, professional collaboration, and development opportunities in Cambodian high schools.

A useful practical response is to treat the lower-ranked characteristics as development opportunities rather than deficits. Related Cambodian evidence links school directors' leadership behaviors to teachers' morale, suggesting that supportive, constructive leadership may shape teachers' workplace experience (Lim et al., 2025). This emphasis is consistent with Cambodian research identifying coaching, support, and trust-based relationships with teachers and staff as areas for leadership development (Chheang et al., 2023); teacher-perception studies also indicate that views of directors' transformational leadership can vary by age, educational background, and province (Em et al., 2025). Research on digital leadership by Cambodian high school directors also reports a positive association with teachers' self-efficacy, extending the local discussion to innovation and teachers' professional confidence (Kim et al., 2025). Professional learning could include peer observation, mentoring, collaborative problem-solving, structured experimentation, and reflection on how directors respond to staff requests for support. Directors could also review whether delegated responsibilities include adequate guidance, resources, and feedback. Such activities would link the comparatively high reported motivation and expectations to more consistent support and implementation. This interpretation aligns with transformational leadership's emphasis on individualized consideration and intellectual stimulation (Bass & Riggio, 2006) while remaining grounded in the study's descriptive results.

Differences by Demographic and Professional Characteristics

The group comparisons examined whether reported leadership-characteristic scores differed by gender, age, educational qualification, and work experience. Related Cambodian research has also explored differences in teachers' perceptions of directors' transformational leadership across demographic and provincial groups. However, its respondents and outcome measures differ from those used in the present study (Em et al., 2025). Gender was not statistically significant ($t = -0.320$, $p = .755$). Male directors had a mean score of 4.12 ($SD = 0.40$), while female directors had a mean of 4.15 ($SD = 0.84$). The observed difference was small, and the analysis did not show a statistically significant gender difference in this sample. This result should not be generalized to mean that gender can never relate to leadership; it indicates only that this study did not detect a significant difference under the conditions and measures used.

Age was also not statistically significant, $F(2, 127) = 2.894$, $p = .059$. Although the p -value was close to .05, it did not meet the study's stated significance threshold. Therefore, the result should be described as non-significant, not as proof that age groups were equivalent or that a significant trend emerged.

Educational qualification likewise showed no statistically significant difference, $F(2, 127) = 0.390$, $p = .678$. In this sample, directors grouped by below-bachelor's, bachelor's, and higher-than-bachelor's qualifications did not differ significantly on measured leadership-characteristic scores. These findings caution against assuming that demographic category or formal academic attainment alone determines reported leadership practice.

Work experience was the only variable examined that showed a statistically significant overall difference, $F(2, 127) = 3.841$, $p = .024$. Post hoc comparisons indicated no significant difference between directors with fewer than 10 years of experience and those with 10–20 years (mean difference = -0.061 , $p = .747$). However, the group with fewer than 10 years differed from the group with more than 20 years (mean difference = -0.479 , $p = .018$), and the 10–20-year group also differed from the group with more than 20 years (mean difference = -0.418 , $p = .018$). The negative mean differences indicate that directors with more than 20 years of experience reported higher scores than both less-experienced groups.

This pattern suggests that professional experience is more strongly associated with differences in reported leadership characteristics than the other demographic variables included in the analysis. One possible interpretation is that longer-serving directors have had more opportunities to develop judgment, manage staff, respond to complex situations, and learn from leadership challenges. However, the study did not directly test these mechanisms, and its cross-sectional design cannot establish that time in the role caused higher scores. Experience may overlap with other factors, including professional learning, school context, responsibilities, mentoring, and access to resources. The defensible conclusion is an association, not a causal effect.

For practice, the experience finding supports considering career stage when planning professional development. Newer directors may benefit from structured induction, mentoring, and support with staff development and school improvement. Mid-career directors may benefit from peer networks and opportunities to refine implementation and delegation practices. Experienced directors may contribute through mentoring and sharing strategies, while still receiving opportunities for continued learning. Individual needs, rather than assumptions about shared strengths or needs, should guide this differentiation.

Table 3. *Group Comparisons in Reported Leadership-Characteristic Scores*

Grouping variable	Test/result reported	Statistic	p	Interpretation at $\alpha = .05$	
Gender	Independent-samples t-test	$t = -0.320$	.755	Not significant	statistically
Age	One-way ANOVA	$F(2, 127) = 2.894$	.059	Not significant	statistically
Educational qualification	One-way ANOVA	$F(2, 127) = 0.390$	.678	Not significant	statistically
Work experience	One-way ANOVA	$F(2, 127) = 3.841$	.024	Statistically significant	

Regression Results and Interpretation

The multiple regression model produced $R = .859$, $R^2 = .738$, and adjusted $R^2 = .718$. The R^2 value indicates that the nine characteristics jointly accounted for 73.8% of the observed variance in the dependent variable specified in the model; the adjusted estimate was 71.8% after accounting for the number of predictors and sample size. This represents substantial model fit within the analyzed sample. It does not mean that the characteristics caused 73.8% of leadership performance, nor does it establish that the model will explain the same proportion of variance in a new sample. The interpretation depends on how the dependent variable is operationalized, the model assumptions, and the quality of the underlying measurements.

Table 4. *Multiple Regression Model Summary*

N	R	R^2	Adjusted R^2	Variance explained (R^2)	Adjusted explained variance
130	.859	.738	.718	73.8%	71.8%

All nine predictors were reported as statistically significant at the .05 level. Integrity had the largest positive standardized coefficient ($\beta = .375$, $p = .009$), followed by Develops Others ($\beta = .236$, $p = .034$), Demonstrates Innovation ($\beta = .232$, $p = .034$), and Task Delegation ($\beta = .181$, $p = .045$). Within this model, these characteristics showed the strongest positive conditional associations with the dependent variable. Integrity's coefficient suggests that, holding the other included predictors constant, higher integrity scores were associated with higher values of the modeled outcome. The coefficients for Develops Others, Demonstrates Innovation, and Task Delegation similarly indicate positive associations, although their estimates were smaller.

The remaining coefficients were negative for Expects Excellence ($\beta = -.068$, $p = .005$), Sensible Risk ($\beta = -.043$, $p = .005$), and Supports Others ($\beta = -.005$, $p = .003$), while Inspirational Motivation ($\beta = .037$, $p = .010$) and Encourages Innovation ($\beta = .027$, $p = .009$) were positive. These signs require careful interpretation. A negative coefficient does not mean the characteristic is undesirable; it indicates a negative conditional association in this model after holding the other predictors constant. Where predictors are conceptually related, their shared variance and possible multicollinearity can affect coefficient size and direction. Therefore, the negative estimates should not be interpreted as a recommendation to reduce expectations, risk judgment, or support for colleagues.

The regression findings also require a distinction between descriptive rankings and conditional regression coefficients. Inspirational Motivation had the highest mean, but Integrity had the largest positive standardized coefficient. These findings are not contradictory: the mean describes how strongly a characteristic was reported on average, whereas a regression coefficient describes its unique statistical association with the specified outcome when the other predictors are included. A characteristic can be frequently reported yet add relatively little unique predictive information if it overlaps with other characteristics. Conversely, a characteristic with a somewhat lower mean can show a stronger conditional association with the outcome.

Verify the regression results against the original statistical output before publication, especially the dependent variable, coefficient labels, standard errors, test statistics, p-values, and model diagnostics. The small reported standardized coefficients paired with low p-values make it important to confirm that the table distinguishes unstandardized coefficients from standardized beta coefficients and that rounding has not obscured the estimates. Linearity, residual behavior, multicollinearity, and influential observations should also be assessed before making strong claims about model quality.

Table 5. *Reported Standardized Regression Coefficients for the Nine Characteristics*

Predictor	Standardized β	p	Direction	Reported significance
Integrity	.375	.009	Positive	$p < .05$
Develops Others	.236	.034	Positive	$p < .05$
Demonstrates Innovation	.232	.034	Positive	$p < .05$
Task Delegation	.181	.045	Positive	$p < .05$
Inspirational Motivation	.037	.010	Positive	$p < .05$
Encourages Innovation	.027	.009	Positive	$p < .05$
Expects Excellence	-.068	.005	Negative	$p < .05$
Sensible Risk	-.043	.005	Negative	$p < .05$
Supports Others	-.005	.003	Negative	$p < .05$

Synthesis and Implications for the Proposed Model

Taken together, the descriptive, group-comparison, and regression findings provide complementary evidence for the proposed Leadership Characteristics Model. The descriptive analysis identifies a generally high self-reported profile and shows where characteristics differ in relative level. The demographic analysis suggests that work experience is associated with differences in reported scores, while gender, age, and educational qualification were not statistically significant at the .05 threshold. The regression analysis identifies which characteristics had the strongest positive conditional associations with the specified outcome

in the fitted model. No single result answers all aspects of the research problem; the model is strongest when these findings are interpreted together and with appropriate limits.

The pattern supports retaining all nine characteristics in the proposed framework while giving differentiated attention to their observed roles. Integrity, Develops Others, Demonstrates Innovation, and Task Delegation had the largest positive standardized coefficients in the reported regression model. Inspirational Motivation, Encourages Innovation, Expects Excellence, and Task Delegation were among the highest-rated characteristics descriptively, while Supports Others, Demonstrates Innovation, and Sensible Risk had comparatively lower means. The model should therefore avoid treating the highest mean as the only indicator of importance or interpreting the lowest mean as proof of failure. Descriptive levels and regression coefficients answer different questions and should be used for different purposes.

The conceptual framework links several characteristics to transformational leadership: Integrity and Sensible Risk are conceptually associated with idealized influence; Encourages Innovation and Demonstrates Innovation with intellectual stimulation; Inspirational Motivation with inspirational motivation; and Supports Others and Develops Others with individualized consideration. Task Delegation and Expects Excellence are complementary practices included in this study's operational framework, not additional original dimensions of Bass and Riggio's transformational leadership model (Bass & Riggio, 2006). Keeping this distinction explicit preserves theoretical accuracy while allowing the model to reflect school directors' practical responsibilities.

Table 6. *Conceptual Mapping of the Proposed Leadership Characteristics Model*

Proposed characteristic(s)	Conceptual connection used in this study	Status in the framework
Integrity; Sensible Risk	Idealized influence	Conceptual alignment
Encourages Innovation; Demonstrates Innovation	Intellectual stimulation	Conceptual alignment
Inspirational Motivation	Inspirational motivation	Conceptual alignment
Supports Others; Develops Others	Individualized consideration	Conceptual alignment
Task Delegation	Empowerment / distributed leadership practice	Complementary characteristic
Expects Excellence	Performance expectations	Study-specific complementary characteristic

The findings have practical implications for leadership development in Cambodian high schools. They also align with Cambodia-focused research calling for the development of principals' transformational leadership attributes and greater attention to coaching, motivation, innovation, and trust (Chheang et al., 2023; Em et al., 2024; Mok et al., 2018). Research on innovative vision and innovative personality among Cambodian high school directors further reinforces the relevance of leadership development focused on vision, innovation, and implementation (Hab et al., 2026a, 2026b). Recent Cambodian studies also examine school directors' digital leadership and teachers' self-efficacy, as well as the relationship between directors' leadership behaviors and teacher morale (Kim et al., 2025; Lim et al., 2025). First, professional learning should sustain strengths in communicating purpose, encouraging improvement, maintaining standards, and acting with integrity. Second, training should provide concrete practice in staff support, coaching, implementing innovation, and making well-reasoned decisions under uncertainty. Third, mentoring and professional learning can be differentiated by experience level, while avoiding assumptions that years of service alone guarantee effective leadership. Finally, the proposed model should be used as a reflective development framework rather than a rigid ranking tool for individual directors.

The findings must be interpreted within the study's limits. The sample comprised 130 directors from Phnom Penh and three provinces, and the measures were based on questionnaire responses collected in 2024. The data therefore do not necessarily represent every Cambodian high school director or capture how teachers and other stakeholders experience leadership. The design also does not establish causality, and the regression model requires independent validation. Future research could test the model with a broader, more diverse sample; incorporate teacher and staff perspectives; examine school-level indicators; and use longitudinal or mixed-methods designs to investigate how leadership characteristics develop and operate in practice.

In conclusion, the study offers an empirically grounded profile of nine leadership characteristics among Cambodian high school directors. Overall reported levels were high, but the results revealed meaningful differences in relative scores and their statistical associations with the modeled outcome. Professional experience was the only examined grouping variable with a statistically significant overall difference, and Integrity showed the largest positive standardized coefficient in the regression model. These findings provide a reasoned basis for the proposed model and for targeted professional development, while further validation is needed before making broader claims about effectiveness or generalizability.

V. CONCLUSION

This study developed a Leadership Characteristics Model for Cambodian high school directors by examining nine characteristics: Integrity, Sensible Risk, Encourages Innovation, Demonstrates Innovation, Inspirational Motivation, Supports Others, Develops Others, Task Delegation, and Expects Excellence. Drawing on transformational leadership theory and educational leadership literature, the study sought to describe directors' reported characteristics, examine differences across selected demographic groups, assess the statistical contribution of the nine characteristics, and formulate a contextually relevant model for leadership development in Cambodian secondary education.

The respondents reported high levels of leadership characteristics ($M = 3.96$, $SD = 0.37$). Inspirational Motivation received the highest mean score ($M = 4.20$, $SD = 0.40$), followed by Encourages Innovation ($M = 4.18$), Expects Excellence ($M = 4.17$), and Integrity ($M = 4.16$). These results suggest that communicating purpose, encouraging improvement, maintaining high expectations, and acting with integrity are prominent features of the directors' reported leadership. Supports Others received the lowest mean ($M = 3.51$, $SD = 0.39$). Although still within the study's reported overall pattern of leadership characteristics, this comparatively lower score identifies an important area for focused professional learning, particularly in providing consistent assistance, listening to staff needs, and supporting colleagues' development.

Demographic analyses showed no statistically significant differences by gender, age, or educational qualification at the .05 level. Work experience, however, was significantly associated with differences in reported leadership characteristics, $F(2, 127) = 3.841$, $p = .024$. Post hoc comparisons indicated that directors with more than 20 years of experience scored higher than directors with fewer than 10 years and those with 10–20 years of experience. This finding suggests that accumulated professional experience may relate to leadership practice, but it does not establish that experience itself causes stronger leadership. The regression model produced $R = .859$, $R^2 = .738$, and adjusted $R^2 = .718$. Thus, the nine characteristics jointly accounted for 73.8% of the observed variance in the study's dependent variable, with an adjusted estimate of 71.8%. Integrity showed the largest positive standardized coefficient ($\beta = .375$), followed by Develops Others ($\beta = .236$), Demonstrates Innovation ($\beta = .232$), and Task Delegation ($\beta = .181$). These estimates should be interpreted as statistical associations within the fitted model rather than evidence of causation; the reported negative coefficients for some predictors likewise require careful interpretation in light of their shared variance with the other characteristics.

The study provides an empirically informed framework for discussing leadership development among Cambodian high school directors. Its nine characteristics connect with key ideas in transformational and educational leadership, while also incorporating practical dimensions such as task delegation and expectations for excellence. The model can inform professional development, mentoring, leadership preparation for deputy directors and emerging school leaders, and school-level reflection. In particular, training should preserve strengths in inspirational motivation and integrity while deliberately supporting others' and staff development. The findings should nevertheless be considered in light of the study's sample, self-reported data, and context; further research using teacher and other stakeholder perspectives, additional locations, longitudinal designs, and independent validation would help test the model's wider applicability. Overall, the proposed model offers a structured starting point for strengthening school leadership capacity and supporting continued improvement in Cambodian secondary education.

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