

The Supremacy of Peer Inclusion: An AI-Driven Vignette Experiment on Teamwork Dynamics

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Abstract. Contemporary teamwork study remains heavily skewed toward leadership styles, often neglecting the horizontal influence of peer behavior. Therefore, this study aimed to challenge the “heroic leader” paradigm by examining the impact of leader behavior (structured vs. open) and member behavior (inclusive vs. exclusive) on individual contributions. To achieve this objective, a novel 2 X 2 randomized vignette design was used, where scenarios were Artificial Intelligence (AI)-generated to ensure high internal validity and eliminate expert bias. Analyzing data from 375 participants, the results showed a critical shift in teamwork theory. For instance, individual contributions were significantly driven by peer inclusiveness, while leadership styles, and the interaction between variables, produced no significant effect. These results confirmed that the “peer climate” overrode formal leadership directives in high-stakes collaborative environments. Therefore, this study advocated for a paradigm shift in organizational training, moving away from top-down leadership development toward fostering “inclusive followership” as the primary driver of team effectiveness.

Keywords: artificial intelligence, group member behavior, leader behavior, teamwork, vignette experiment

Kekuatan Anggota Melampaui Pemimpin: Eksperimen Vignette Berbasis AI dalam Dinamika Kolaborasi Tim

Abstrak. Banyak literatur manajemen sangat terfokus pada peran pemimpin dalam menentukan keberhasilan tim, sering kali mengabaikan pengaruh horizontal antar anggota. Penelitian ini menantang bias “sentris-pemimpin” tersebut dengan menguji dampak perilaku pemimpin (terstruktur vs. terbuka) dan anggota (inklusif vs. eksklusif) terhadap kontribusi individu. Menggunakan desain eksperimental 2X2 yang inovatif, skenario penelitian dikonstruksi melalui kecerdasan buatan (AI) untuk menjamin standarisasi dan meminimalkan bias peneliti—sebuah kemajuan metodologis dalam studi eksperimen sosial. Melibatkan 375 partisipan, hasil penelitian menunjukkan temuan yang mengejutkan: kontribusi individu secara eksklusif didorong oleh perilaku inklusif anggota kelompok, sementara gaya kepemimpinan terbukti tidak memiliki pengaruh signifikan. Temuan ini membuktikan bahwa dalam konteks tim mahasiswa, “iklim teman sebaya” (*peer climate*) jauh lebih menentukan daripada arahan formal dari atas ke bawah (*top-down*). Hasil ini mendesak pergeseran paradigma dalam pengembangan tim di pendidikan tinggi, dari sekadar pelatihan kepemimpinan menuju pembinaan budaya inklusivitas antar anggota untuk memaksimalkan kolaborasi.

Kata Kunci: eksperimen vignette, kecerdasan buatan, kerja tim, perilaku anggota kelompok, perilaku pemimpin.

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Introduction

The ability to work effectively in teams during university education is not only crucial for academic success but also serves as a foundation for professional collaboration in workplace settings. Studies have shown that students who engage in structured team-based learning are better prepared for cross-functional teamwork in corporate environments (Edmondson & Bransby, 2023). In contemporary organizations, interdisciplinary collaboration is essential for driving innovation, improving efficiency, and fostering a dynamic work environment (Dirani et al, 2021).

Recognizing the importance of teamwork, higher education institutions in Indonesia have incorporated it into their Key Performance Indicators (Indikator Kinerja Utama/IKU). One of the strategies used is the implementation of team-based projects, which emphasize the development of collaboration, leadership, and problem-solving skills among students (Kemendikbud, 2020). These initiatives align with global trends, highlighting teamwork as an essential workforce competency (Liu & Keller, 2021).

The urgency of this study is grounded in the pivotal role of teamwork skills in preparing students for the workforce. Recent studies have shown that students who participate in team-based learning demonstrate higher employability and appreciation for collaborative work, particularly in hybrid and virtual learning environments, where

teamwork often drives skill development (Navío-Marco et al., 2025). Moreover, structured team activities, such as collaborative writing exercises, have been shown to improve students' communication, confidence, and attitudes toward teamwork, key facets of workforce readiness (Moxie et al, 2025). In addition to this, evidence from large-scale digital team environments emphasizes the significant impact of social skills, or the "team player effect," on team performance, underscoring the importance of interpersonal competence in team success (Petrov, 2025).

Understanding how leader and member behaviors influence individual contributions in teamwork, specifically in increasingly virtual, complex settings, becomes essential for both academic outcomes and long-term employability as team-based projects become central to university curricula.

The urgency of this study is grounded in the increasing emphasis on team-based projects as a key indicator of Indikator Kinerja Utama (IKU) and their long-term impact on workforce readiness. As universities incorporate team-based projects into their curricula to meet institutional performance standards (Kemendikbud, 2020), understanding the determinants of effective teamwork becomes essential. To ground this study in theory, it is important to draw on the concepts of shared leadership and Input-Process-Output (I-P-O) model of team effectiveness. Shared leadership views leadership as a collective influence

process where multiple members assume leadership roles based on their expertise, rather than relying solely on formal hierarchical authority. Recent studies have shown that shared leadership fosters knowledge exchange, enhances team cohesion, and improves project performance in both academic and professional contexts (Coluccio & Muñoz-Herrera, 2024; Karppi et al., 2024).

Complementing this perspective, I-P-O model conceptualizes team effectiveness as the outcome of how structural inputs (e.g., leader behavior—structured vs. open) interact with team processes (e.g., member behavior—inclusive vs. exclusive) to produce outputs such as individual contributions and overall team success (Paredes-Saavedra et al., 2024; Salas et al., 2025). Integrating these frameworks provides a strong conceptual basis for examining how leader and member behaviors jointly shape teamwork dynamics.

Teamwork depends not only on leadership but also on group members. A leader's behavior plays a crucial role in shaping team dynamics, with directive leadership providing structure and guidance, while supportive leadership fosters a participatory work culture (Elsaied, 2018). Furthermore, investigations on group members emphasize the importance of active participation in achieving collective goals (Spector & Jones, 2004). Previous studies have explored various aspects of teamwork dynamics. For example, Edmondson & Lei (2014) emphasized the importance of

psychological safety, while Maynard et al. (2013) found that team cohesion significantly empowered performance. Similarly, Conger & Kanungo (1988) that shared leadership improved collective engagement. Despite these insights, only a few have examined how leader and member behaviors interact to shape teamwork outcomes, justifying the need for the current study.

Recent advances in teamwork research have predominantly focused on leadership styles, psychological safety, and team cohesion as predictors of collaborative effectiveness (Edmondson & Lei, 2014; Maynard et al., 2013; Nazaruddin et al., 2021). Although these studies have provided valuable insights, they often examine leader or member behaviors in isolation rather than their combined influence. Moreover, most empirical work relies on surveys or field observations, which, although ecologically valid, are limited in their ability to establish causal inferences. Only a few have begun experimenting with vignette-based or simulation approaches, and none, to current knowledge, have systematically applied Artificial Intelligence (AI)-generated vignettes to improve internal validity and reduce expert bias. This positions the current study at the frontier of teamwork and leadership investigation. It is among the first to integrate leader and member behaviors in a randomized 2×2 design using AI-generated scenarios, thereby advancing both the methodological toolkit and the theoretical understanding of

how structural and process factors jointly shape individual contributions in team contexts.

This study introduces randomized AI-generated vignette experiments as an innovative method, allowing for a controlled examination of leader behavior in teamwork scenarios while ensuring high internal validity (Matza et al., 2021). By generating vignettes with AI, this method minimizes bias, improves consistency across experimental conditions, and strengthens the reliability of results (Haase et al., 2023). By addressing these gaps, the current study contributes to both theoretical advancements in teamwork research and practical strategies for optimizing collaboration in academic and professional settings. Theoretically, it offers insights into how leader behavior and member engagement interact to shape collaborative outcomes. Practically, the results can inform leadership training programs, team development initiatives, and educational strategies aimed at improving teamwork effectiveness across different contexts.

Building on the identified theoretical foundation and research gap, this study aimed to answer the following research questions:

1. How does leader behavior influence individual contributions to group projects?
2. How does group member behavior impact individual contributions to group projects?
3. Is there an interaction effect between leader behavior and member behavior on individual contributions to group projects?

Based on the research questions, the following hypotheses are proposed:

H1: Leader behavior significantly affects individual contributions to group projects.

H2: Group member behavior significantly affects individual contributions to group projects.

H3: There is a significant interaction effect between leader behavior and group member behavior on individual contributions to group projects.

Method

This study used a 2×2 between-subjects experimental design, manipulating two independent variables, namely leader behavior and member behavior. Participants consisted of 375 undergraduate students who were recruited through Jakpat application and randomly assigned to one of four experimental conditions.

To underpin the theoretical rationale of the design, a 2×2 between-subjects vignette experiment, also known as a factorial survey experiment, was used. Vignette experiments combine the internal validity of experimental designs with the contextual richness of scenario-based methods, allowing participants to evaluate realistic but controlled stimuli (Aguinis & Bradley, 2014). This method enables the systematic variation of key factors, namely leader behavior (structured vs open) and member behavior (inclusive vs exclusive), in realistic but controlled scenarios, allowing

examination of both main effects and interaction effects on teamwork outcomes. Two factors were manipulated in this study, namely leader behavior (structured vs. open) and member behavior (inclusive vs. exclusive). The 2×2 factorial structure made it possible to test both the main effects of each factor and their interaction effect on individual contributions to teamwork.

Recent methodological discussions emphasize that vignette-based factorial experiments are specifically effective in higher education and organizational settings, specifically improving ecological validity while maintaining rigorous control over experimental conditions (Forster & Neugebauer, 2024; Hillen et al., 2025). Such vignette-based factorial experiments offer a compelling balance between experimental rigor and contextual relevance. This theoretical rationale underpins the choice

of research design, ensuring the robustness and credibility of the results.

The survey instrument included an introduction outlining the research purpose and focus, as well as voluntary participation policy, ensuring no academic or professional consequences for participants. The next section covered informed consent, where participants were presented with a consent form outlining their rights, privacy protection, and data confidentiality.

The textual narratives were generated using AI with prompts informed by more than 10 years of teaching experience in Indonesian higher education. To ensure clarity and readability, three lecturers reviewed and validated the narratives through a readability assessment before their final implementation in the experiment. Each participant received one of the following randomly distributed vignettes:

Figure 1*Vignette*

		Leader	
		Structured	Open
Member	Inclusive	Vignette 1 <i>Imagine you are working on a group project where the group leader has a highly structured leadership style and makes all decisions independently.</i> <i>On the other hand, your fellow group members are open to different perspectives, making it comfortable for all members to share their opinions.</i>	Vignette 2 <i>Imagine you are working on a group project where the group leader has a highly structured leadership style and makes all decisions independently.</i> <i>On the other hand, your fellow group members hold specific viewpoints and ignore differing opinions.</i>
	Exclusive	Vignette 3 <i>Imagine you are working on a group project where the group leader encourages open discussion and makes decisions participatively.</i> <i>On the other hand, your fellow group members are open to different perspectives, making it comfortable for all members to share their opinions.</i>	Vignette 4 <i>Imagine you are working on a group project where the group leader encourages open discussion and makes decisions participatively.</i> <i>On the other hand, your fellow group members hold specific viewpoints and ignore differing opinions.</i>

Two manipulation check questions were included to ensure participants accurately understood the experimental conditions:

1. In the group work scenario presented, I understood that the group leader:
 - (a) Had a highly structured leadership style and made all decisions independently.
 - (b) Encouraged open discussion and made decisions participatively.
2. In the group work scenario presented, I understood that the team members:
 - (a) Accepted different perspectives, making it comfortable for everyone to share opinions.
 - (b) Held specific viewpoints and ignored differing opinions.

Group Work Contribution Scale (GWCS) developed by Joo & Dennen (2017) was used to measure individual contributions to teamwork and group projects. The instrument consisted of 10 items covering four key aspects of group participation, namely effort, responsibility, communication, and engagement. Respondents were asked to rate each statement on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), with higher scores indicating greater perceived contribution to group work. Example items included: "I actively share ideas during group discussions" (communication), "I take responsibility for completing tasks assigned to me" (responsibility), and "I put significant effort into group assignments" (effort).

GWCS underwent a pilot test prior to data collection to ensure its reliability and validity. The pilot test results showed strong internal consistency, with a Cronbach's Alpha of .903, confirming high reliability in measuring group work contribution. Furthermore, Pearson's correlation coefficients (r) ranged from .501 to .866, indicating moderate to strong positive relationships between individual items and the overall scale. These results confirmed GWCS was a psychometrically sound instrument for assessing individual contributions in team-based settings in Indonesian higher education context.

This study used SurveyMonkey, an online platform that facilitated randomized vignette presentation, ensuring a systematic and unbiased data collection process. This platform provides a flexible and efficient way to administer surveys, improving data integrity by minimizing missing data and ensuring response consistency. Recruitment was conducted through Jakpat platform, which provided access to a diverse pool of respondents across different majors and institutions. Jakpat is a widely used mobile survey platform in Indonesia, enabling research experts to quickly and efficiently access a diverse and demographically representative pool of respondents. Utilizing Jakpat for participant recruitment improved sample randomization and generalizability, reducing selection bias and increasing the external validity of the results. As an incentive,

three randomly selected participants received a reward of IDR 25,000.

Results

A total of 375 undergraduate students participated in this study. Participants were selected using convenience sampling, a non-probability method where subjects are chosen based on availability and accessibility. This method is broadly used in educational and social science research when experts rely on accessible populations like students, an approach recognized for its practicality, efficiency, and suitability in exploratory and experimental contexts (Ahmed, 2024; Memon et al., 2025).

A convenience sampling method, commonly applied in behavioral and educational research to efficiently access student populations, was used. This method has been shown to produce reliable results when studying teamwork dynamics. While convenient, this sampling method carries limitations in terms of generalizability, a concern that was mitigated by ensuring transparency about sample characteristics and study scope.

Participants were recruited based on the following criteria: (1) active enrolment in undergraduate programs at Indonesian universities and (2) prior experience in team-based coursework or group projects. Demographic data were collected to provide a descriptive profile of the sample. Participants'

ages ranged from 18 to 24 years ($M = 20.3$, $SD = 1.2$). In terms of gender, 57% were female and 43% were male. The majority were enrolled in social sciences (45%) and business-related majors (32%), while the remainder came from engineering and other disciplines. Furthermore, over 80% reported having completed a minimum of three team-based assignments in the previous academic year,

confirming the relevance of the sample for examining teamwork contributions.

Participants were distributed across the four experimental conditions, with Group 1, 2, 3, and 4 having 84, 96, 89, 106 participants, respectively. Table 1 summarizes the descriptive statistics, reporting the mean and standard deviation of GWCS scores for each group.

Table 1

Descriptive Statistics

	VIGNETTE			
	1	2	3	4
Valid	84	96	89	106
Mean	49.905	48.615	50.000	48.189
Std. Deviation	5.432	5.373	6.013	5.577
Shapiro-Wilk	.955	.980	.974	.974
P-value of Shapiro-Wilk	.005	.151	.072	.034
Minimum	33.000	35.000	37.000	35.000
Maximum	61.000	60.000	61.000	60.000

Descriptive results showed slight variations in mean GWCS scores across the four experimental groups. Participants in Group 3 (open leader, inclusive members) reported the highest mean contribution score ($M = 50.00$, $SD = 6.01$), followed by Group 1 (structured leader, inclusive members) with a mean of 49.91 ($SD = 5.43$). By contrast, Group 2 (structured leader, exclusive members) and Group 4 (open leader, exclusive members) showed lower mean scores, with $M = 48.62$ ($SD = 5.37$) and $M = 48.19$ ($SD = 5.58$), respectively. These

descriptive differences suggested a pattern where groups with inclusive member behavior (Groups 1 and 3) reported higher contributions than groups with exclusive member behavior (Groups 2 and 4).

The Shapiro-Wilk test for normality was statistically significant ($W = .988$, $p = .003$), showing that the data deviated from normality. Levene's test for homogeneity of variances was not statistically significant ($F = 1.643$, $p = .179$), confirming that the assumption of homogeneity of variances was met.

Table 2*Assumption Checks*

F	df1	df2	p
1.643	3.000	371.000	.179

A 2 × 2 factorial Analysis of Variance (ANOVA) examined the effects of leader behavior (structured vs. participative) and group member

behavior (inclusive vs. exclusive) on individual contributions in teamwork and group projects, assessed using GWCS.

Table 3*ANOVA*

Cases	Sum Squares	of df	Mean Square	F	p	η^2_p
LEADER	2.543	1	2.543	.081	.776	2.184×10^{-4}
MEMBER	223.750	1	223.750	7.131	.008	.019
LEADER * MEMBER	6.317	1	6.317	.201	.654	5.424×10^{-4}
Residuals	11640.204	371	31.375			

Note. Type III Sum of Squares

ANOVA results showed a statistically significant main effect for member behavior ($F = 7.131$, $p = .008$, $\zeta^2 p = .019$). In contrast, differences attributable to leader behavior (structured vs. open) were minimal ($F = .081$, $p = .776$), and the interaction between leader and member behavior was also not significant ($F = .201$, $p = .654$). Therefore, while mean scores

varied slightly across groups, the analysis confirmed that member inclusivity versus exclusivity, rather than leader style, accounted for meaningful differences in individual contributions to group work.

Based on the preceding tables, the hypothesis testing summary is presented as follows:

Table 4*Hypothesis Testing Summary*

Hypothesis	Hypothesis Statement	Result
H1	Leader behavior significantly affects individual contributions to group projects.	Not supported
H2	Group member behavior significantly affects individual contributions to group projects.	Supported
H3	There is a significant interaction effect between leader behavior and group member behavior on individual contributions to group projects.	Not supported

Based on the hypothesis testing, member behavior significantly influenced individual contributions to group projects, while leader behavior and the interaction between leader and member behavior were not statistically significant.

The hypothesis testing was conducted as planned, although the data analysis revealed

opportunities for further exploration. Therefore, the following section presents additional analyses aimed at delving deeper into the relationships between variables that were not fully captured in the primary hypothesis testing. These supplementary analyses were expected to provide additional insights and enrich the results.

Table 5
Correlation

Variable		GROUP	TOTAL
1. GROUP	Pearson's r	—	
	p-value	—	
2. TOTAL	Pearson's r	.274 ***	—
	p-value	< .001	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Further analysis confirmed a statistically significant positive correlation between the frequency of group work exposure and individual contributions to group projects ($r = .274$, $p < .001$), suggesting that individual contributions to group projects tended to increase as the frequency increased. In this study, group work exposure refers to the frequency with which participants had previously engaged in team-based assignments during their undergraduate studies. The variable was measured using a self-report item that asked students to indicate the number of group

projects completed in the past academic year. Individual contributions in teamwork and group projects were assessed using GWCS.

The correlation between these two variables was examined to explore whether prior exposure to teamwork translated into more active and constructive participation in subsequent group projects. The underlying rationale was that repeated involvement in collaborative tasks allowed students to accumulate relevant skills and familiarity with group dynamics, thereby improving their ability to contribute effectively.

Table 6*Regression*

Model	R	R ²	Adjusted R ²	RMSE
M ₀	0.000	0.000	0.000	5.635
M ₁	0.274	0.075	0.073	5.426

Note. M₁ includes GROUP

Group work exposure accounted for 7.5% of the variance in individual contributions to group projects ($R^2 = .075$), suggesting a statistically significant but small effect. The result provided empirical support for the notion that experience in group work settings can reinforce the development of collaborative competencies.

Discussion

This study aimed to investigate the effects of leader and member behavior on individual contributions to group projects through a 2×2 factorial vignette experiment. The results offered valuable insights into the dynamics of group collaboration and the relative influence of leader and member behavior in shaping teamwork outcomes.

Based on analysis, member behavior significantly influenced individual contributions to group projects ($p = .008$), supporting H2. These results emphasized the importance of inclusive and participative group member behavior in fostering productive teamwork, particularly in student-driven projects. Previous studies have emphasized the importance of group cohesion and psychological safety in improving

collaboration (Edmondson, 2004). In line with this body of research, the results emphasized the role of participative and inclusive member engagement in driving positive outcomes.

Inclusive member behavior tended to improve teamwork effectiveness because it created a psychologically safe environment where students felt comfortable sharing ideas and perspectives. Previous studies have shown that inclusivity facilitates greater trust, open communication, and mutual respect in teams, consequently increasing individual willingness to contribute (Liang et al, 2012; Newman et al, 2020). In student-driven projects, where collaboration is essential for task completion, such inclusivity directly translates into higher levels of engagement and effort. This explains why groups characterized by inclusive member behavior (Groups 1 and 3) consistently achieved higher contribution scores than those with exclusive member behavior.

The leader behavior, in contrast, did not significantly impact individual contributions ($p = .776$), confirming the rejection of H1. This contradicted traditional leadership theories, stating that directive or participative leadership styles influence team performance (Nazaruddin et al, 2021). A possible explanation is that, in

academic settings, students may prioritize peer interactions over leadership structures, making leader behavior less influential in their contributions to group projects.

It is important to consider the dynamics described in shared leadership research in order to gain more insights on why leader behavior did not significantly affect individual contributions. In short-term academic teams, leadership is often distributed among members based on emergent needs rather than formal roles. According to Karppi et al. (2024), shared leadership tends to arise when team members engage in collective support, shared purpose, and mutual coaching, reducing dependence on any single directive leader. Similarly, Chamberlin et al. (2024) found that when leadership was collectively enacted, team cohesion and effectiveness improved, with peer coordinate behaviors potentially outweighing the influence of a designated leader. These results explained why, in the study context, structured versus open leadership styles had limited impact. Specifically, member interactions and distributed leadership tended to shape contributions more strongly than leadership mode.

The interaction effect between leader and member behavior was not statistically significant ($p = .654$), leading to the rejection of H3. Therefore, the combined influence of leadership and membership styles did not create an amplifying effect on individual contributions. A potential reason is that

members' direct engagement with the task may overshadow the impact of leadership, particularly in short-term academic collaborations where hierarchical structures are less rigid.

The results partially aligned with existing literature on teamwork and leadership. While previous studies have shown the impact of both leader and member behavior on collaboration (Conger & Kanungo, 1988; Edmondson & Lei, 2014; Maynard et al., 2013), the current study suggested that member behavior played a more critical role in influencing individual contributions. This was in line with other studies emphasizing the importance of shared leadership and team cohesion (Elsaied, 2018). The non-significant impact of leader behavior can indicate that, in student-driven projects, leadership is perceived as a secondary factor compared to peer engagement and collective decision-making.

Theoretically, this study contributed to the growing body of research on team dynamics by emphasizing the significant role of member behavior in shaping individual contributions. Therefore, future investigations were recommended to focus more on peer interactions and engagement rather than solely on leadership styles.

From a practical perspective, the results showed that higher education institutions should prioritize fostering effective group collaboration skills among students. Training programs aimed at improving peer engagement,

communication, and inclusivity in teams could be more impactful than focusing solely on leadership development. Instructors designing team-based projects should also actively encourage full participation from all members to maximize collaborative outcomes. Consequently, higher education institutions in Indonesia could better achieve their IKU and align with global trends.

This study had some limitations despite its contributions. First, the use of vignette-based scenarios might not fully capture the complexities of real-world group interactions. Future investigations could adopt longitudinal or observational methods to better capture the evolution of team dynamics over time. Second, the sample consisted of university students, which could limit the generalizability of the results to professional work environments. Further studies should explore how these dynamics manifested in corporate and organizational settings. Finally, it is important to examine additional moderating variables, such as task complexity or group size, to gain a deeper understanding of the conditions under which leader and member behavior impact teamwork outcomes.

Conclusions

In conclusion, this study provided empirical evidence that member behavior significantly influenced individual contributions to group projects, while leader behavior and the interaction between leader

and member behavior were not statistically significant. The results emphasized the need to foster peer engagement and participation in group-based learning and collaboration. Therefore, future investigations were recommended to focus on the interplay between leadership and group dynamics to improve teamwork effectiveness in academic and professional settings.

Suggestion

Future investigations should focus on the interplay between leadership and group dynamics to improve teamwork effectiveness across academic and professional settings. Besides research implications, the results also offered practical applications. For instance, in higher education, instructors designing team-based projects should place greater emphasis on fostering inclusive member behaviors, such as creating opportunities for all voices to be heard, encouraging constructive peer feedback, and rewarding collaborative effort. Universities may also integrate teamwork skill-building modules into the curriculum to prepare students for professional environments where collaboration is a key competency.

Several directions were recommended for future investigations. First, given that this study relied on vignette-based scenarios, subsequent investigations could complement experimental results with longitudinal or observational designs to capture how leader and member behaviors unfold in real group

interactions over time. Second, the current sample was limited to undergraduate students in Indonesia, which might constrain the generalizability of results. Replicating this design with professional employees or in cross-cultural contexts would provide a broader understanding of teamwork dynamics. Third, additional variables such as task complexity, cultural orientation, or group size could be introduced as moderators to identify conditions under which leader behavior exerted stronger influence. By addressing these directions, future investigations can extend the theoretical contributions of the current study and offer richer insights into the mechanisms driving effective teamwork.

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