E-ISSN: 3108-852X

APSSHS

Academic Publications of Social Sciences and Humanities Studies
2023, Volume 3, Issue 1, Page No: 44-53
Available online at: https://apsshs.com/

Journal of Applied Organizational Systems and Behavior

Results of Emotional Intelligence, Teamwork, Individual Goals, and Forms of Grouping among Vietnamese Students

Kevin O'Donnell[1]*, Rachel Murphy[2], Brian Nolan[1]

1. Department of Organizational Behavior, School of Business, Trinity College Dublin, Dublin, Ireland.
2. Department of Individual Behavior and Leadership, Faculty of Social Sciences, University College Cork, Cork, Ireland.

Abstract

This paper examines the influence of emotional intelligence on teamwork effectiveness among university students in Vietnam, focusing on how individual goals and forms of grouping mediate this connection. Data were collected through a mixed-method approach, combining detailed interviews with a broad survey at multiple economic-focused universities in Hanoi. The study analyzed 372 completed student questionnaires to assess both the direct and indirect relationships between emotional intelligence and teamwork outcomes. To validate the research tools and hypotheses, the data were subjected to rigorous quantitative methods such as Cronbach's Alpha reliability testing, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM), utilizing SPSS and AMOS software. The results demonstrate that emotional intelligence significantly impacts teamwork performance directly, while also showing that positive individual goals and self-managed team structures play a crucial mediating role. Based on these findings, practical recommendations are provided for students, academic staff, and university administrators to foster better teamwork among students.

Keywords: Vietnam, Emotional intelligence, Individual goals, Teamwork, Forms of grouping

How to cite this article: O'Donnell K, Murphy R, Nolan B. Results of emotional intelligence, teamwork, individual goals, and forms of grouping among Vietnamese students. J Appl Organ Syst Behav. 2023;3(1):44-53. https://doi.org/10.51847/6zv5LangUf

Received: 11 March 2023; **Revised:** 15 August 2023; **Accepted:** 16 August 2023
Corresponding author: Kevin O'Donnell
E-mail ✉ kevin.odonnell@outlook.com

Introduction

A team is defined not merely as a group of individuals working together or under managerial guidance, but as a collective possessing complementary skills and a shared commitment to achieving a common goal [1]. This necessitates effective communication among team members and leaders, as well as mutual reliance on each other's expertise to accomplish tasks. Teamwork holds significant importance across various real-world scenarios, and extensive research highlights its advantages for university students [2]. Firstly, group assignments provide students with opportunities to develop and refine skills applicable to future professional environments. Secondly, teamwork has been positively linked to enhanced student learning outcomes, motivation, and attitudes toward education [3–5]. Due to these benefits, teamwork has long been a fundamental component of university education [6, 7].

Multiple factors have been identified as influencing teamwork performance, with emotional intelligence recognized as having a direct impact [8, 9]. Additionally, emotional intelligence's indirect effects on teamwork have been explored through mediators such as individual goals—both positive and negative [10, 11]—and the form of grouping, including self-managed and cross-functional teams [12–14].

Building upon these insights, the present research aims to achieve three goals: first, to examine the direct influence of emotional intelligence on the teamwork effectiveness of Vietnamese university students; second, to explore how individual goals and forms of grouping mediate the connection between emotional intelligence and teamwork skills within this population; and third, to offer practical recommendations for students, educators, and administrators to improve collaborative performance.

Theoretical framework and hypotheses development

Direct influence of emotional intelligence on teamwork performance

The concept of emotional intelligence originated with Salovey and Mayer [15], drawing upon Gardner's [16] theory of multiple intelligences. Since then, various scholars have proposed definitions to capture its scope. Mayer and Salovey [17] described emotional intelligence as the ability to perceive, interpret, and articulate emotions accurately, harness emotional input to facilitate thought, comprehend emotional shifts and patterns, and regulate emotional responses to foster both emotional and cognitive growth. Goleman (1998) similarly emphasized the recognition of one's own emotions and those of others, using such awareness to guide judgment and action. Later, Mayer *et al*. (2004) reinforced the definition by outlining four key dimensions: recognizing emotions, employing them to support reasoning, understanding emotional nuances, and managing emotions constructively. According to Goleman (2004), emotional intelligence involves being conscious of one's emotions and effectively managing them across diverse scenarios[18–20]. Issah (2018) expanded this framework to highlight five foundational elements: self-awareness, emotional regulation, intrinsic motivation, empathy, and social capabilities[21].

This study builds upon the conceptual model introduced by Mayer and Salovey [17], focusing on the four foundational components: emotional awareness, utilization, understanding, and regulation.

Parallel to this, teamwork has become increasingly recognized as a pivotal mechanism for experiential learning within professional and academic settings [22, 23]. Harris and Harris [24] describe teamwork as a functional unit where interpersonal relationships support collective task achievement. Hackman and Walker (1990) provide a practical definition of teamwork performance, emphasizing the degree to which team outcomes meet expectations for quality, quantity, and timeliness—an interpretation that aligns well with the educational context and is thus adopted in this research[1].

Numerous empirical works have established a connection between teamwork performance and emotional intelligence. Gujral and Ahuja (2011) noted that emotional intelligence significantly influences how individuals engage and align with shared team objectives[14]. Mccallin and Bamford (2007) pointed out that core elements of emotional intelligence—such as self-awareness, emotional regulation, empathy, and interpersonal skills—are fundamental to effective team functioning[24]. Studies by Stephens and Carmeli (2016) and Clarke (2010) suggest that emotionally intelligent individuals contribute to richer team dialogue, are more accepting of diverse opinions, and leverage emotions to optimize group decisions and performance[25, 26]. Brackett and Mayer [8] demonstrated a link between emotional intelligence and students' ability to engage in collaborative tasks, especially within healthcare education environments. Their findings suggest that emotionally adept students are better positioned to apply teamwork principles during practical activities. Arfara and Samanta (2016) argue that high emotional intelligence facilitates conflict resolution and positive emotional climates, thereby improving team cohesion and outcomes[27].

Informed by these findings, the study proposes the following hypothesis:

H1. Emotional intelligence positively affects the teamwork performance of university students.

Indirect influence of emotional intelligence on teamwork performance

According to Locke and Latham [28], an individual goal reflects a desired outcome or vision that a team member intentionally sets and is committed to pursuing within a group context. These authors found that clearly defined, challenging objectives tend to yield higher performance than vague or instruction-driven goals.

For this research, individual goals are considered in two forms: positive and negative. Volet and Mansfield [29] define positive individual goals as those aimed at academic achievement and interpersonal harmony, combining aspirations for performance, knowledge acquisition, and social connection. In the context of group work, such goals manifest as striving for high-quality outcomes, efficient collaboration, and strong group unity. On the other hand, negative individual goals, as identified by Volet and Mansfield [29], involve self-serving aims that lack broader group value—students may prioritize personal convenience or emotional inclinations, resulting in obstructive behavior, procrastination, or interpersonal conflict, all of which undermine group effectiveness.

Martinez-Pons [10] provided evidence for the predictive power of emotional intelligence in guiding individual orientations, including goal-setting within teams. Sushil [30] emphasized that aligning personal objectives with those of the team improves group synergy. Stajkovic *et al*. (2009) also found that individual goals are important determinants of successful teamwork performance[31].

Based on this literature, the following hypotheses are proposed:

H2. Emotional intelligence positively influences the formation of positive individual goals among university students.

H3. Positive individual goals positively influence teamwork performance in university students.
H4. Emotional intelligence negatively influences the emergence of negative individual goals among university students.
H5. Negative individual goals negatively impact the teamwork performance of university students.
H6. Positive individual goals mediate the relationship between emotional intelligence and teamwork performance in university students.
H7. Negative individual goals mediate the relationship between emotional intelligence and teamwork performance in university students.
Moravec *et al*. [32] characterize self-managed teams as internally organized units that are tasked with specific duties and operate without hierarchical decentralization. Unlike traditional team structures, these groups oversee their assigned responsibilities autonomously. Zafft *et al*. [33] extend this concept by describing these teams as collectives that assume control over multiple functions such as planning their own schedules, monitoring outcomes, assessing individual contributions, and driving ongoing enhancements. From the perspective of Goodman *et al*. [34], self-managed teams consist of mutually dependent members who possess the authority to govern their own tasks, execution strategies, and timelines. Applying this interpretation to academic settings, student self-managed teams can be seen as cooperative units in which each individual not only contributes but also shares full authority over determining the tasks, scheduling, and implementation methods.
Cross-functional teams, according to Webber [35], are composed of experts originating from distinct areas of specialization who join efforts to achieve a shared organizational aim. These interdisciplinary teams have proven valuable in domains ranging from innovation in product development [36], institutional reform initiatives [37, 38], to enhancing speed-to-market strategies [39]. Translating this structure into the academic environment, a student cross-functional team comprises members from various academic backgrounds who pool their specialized knowledge. In these teams, leadership is not centralized but distributed, allowing members to jointly guide the group toward its academic objectives.
The importance of emotional intelligence becomes evident in self-managed teams, particularly in collective behaviors such as aligning team members, regulating actions, modifying team strategies, and influencing others constructively [40]. Gujral and Ahuja [14] discovered that emotional intelligence shows a stronger link with self-managed teams compared to cross-functional ones, implying that such teams may possess higher levels of emotional and cognitive synergy, leading to superior collaborative outcomes. This advantage is attributed to a higher degree of internal cohesion within self-managed structures. Additionally, research by Kirkman and Rosen (1999) supports the idea that these teams enhance productivity. On the other hand, Horwitz [41] emphasizes the positive impact that diversity in expertise brings to cross-functional teams, allowing them to approach problems from multiple viewpoints and increase overall team effectiveness.
Building on these theoretical insights and empirical findings, the following research hypotheses are formulated:
H8. Emotional intelligence exerts a positive effect on the performance of university students in self-managed teams.
H9. The presence of self-managed teams enhances teamwork performance among university students.
H10. Emotional intelligence positively affects students participating in cross-functional teams.
H11. Teamwork performance among university students is positively influenced by cross-functional team dynamics.
H12. Self-managed teams serve as a mediating factor in the relationship between emotional intelligence and teamwork performance.
H13. Cross-functional teams mediate the effect of emotional intelligence on teamwork performance in university settings.

Materials and Methods

Sample

Following a review of secondary sources, the researchers carried out semi-structured interviews with two distinct participant groups: (i) 05 university faculty members and (ii) 05 students. These discussions aimed to refine the constructs related to emotional intelligence, teamwork performance, individual goals, and grouping forms within the academic setting in Vietnam. Drawing from the insights gained through these interviews and the synthesized literature, the authors formulated relevant questions to enhance the survey. The research model integrated measurement scales from previous empirical studies, utilizing established observed variables.
To obtain empirical data, the researchers administered surveys at several institutions in Hanoi, including National Economics University, Banking Academy, University of Economics – National University, Foreign Trade University, Academy of Finance, and University of Commerce. The data collection took place from July to October 2020. The study applied a convenience sampling method to select participants. The survey instrument consisted of two main parts: the first focused on evaluating participants' views on emotional intelligence, teamwork effectiveness, individual goals, and grouping structures; the second gathered demographic information such as gender, academic year, and frequency of team collaboration.
A total of 385 responses were collected from university students. After eliminating questionnaires that were incomplete or deemed unreliable, 372 valid responses remained for analysis. As shown in **Table 1**, males constituted a slightly larger portion

of the sample (50.8%). Third-year students represented the majority group at 44.6%. In terms of team participation frequency, the majority reported regular involvement in teamwork (71.0%), followed by occasional participation (25.8%).

Table 1. Descriptive statistics of sample demographics

Demographic information		Frequency	Percent	Mean	Standard Deviation
Gender	Female	182	48.9	1.513	0.5058
	Male	189	50.8		
Year of students	1st	52	14.0	2.605	0.9271
	2nd	101	27.2		
	3rd	166	44.6		
	4th	48	12.9		
	other	5	1.3		
Frequency of teamwork	never	2	0.5	3.672	0.5543
	rarely	10	2.7		
	sometime	96	25.8		
	usually	264	71.0		

Procedure

To obtain data on emotional intelligence, teamwork performance, individual goals, and forms of grouping, the researchers employed a structured questionnaire comprising standardized items targeting these constructs. The survey was administered to students enrolled in various economics-focused universities across Vietnam. Participants were approached directly in academic and communal settings, including classrooms, libraries, residence halls, and dining facilities. Prior to distributing the questionnaire, the research team provided a concise overview of the study's intent, helping ensure that participants comprehended the purpose and responded accurately to the questions **(Figure 1)**.

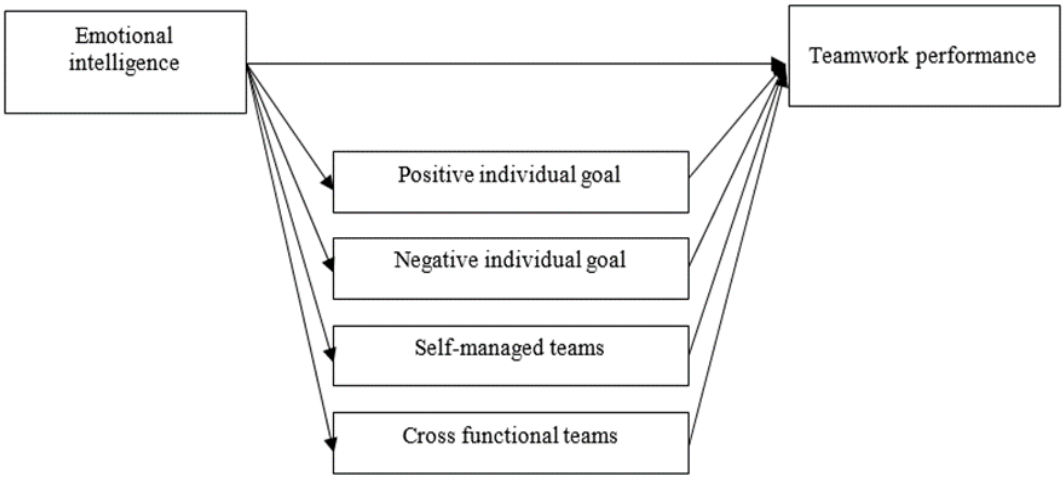

Figure 1. The conceptual model

Measures

Emotional intelligence (EI)

To evaluate the four components of emotional intelligence—emotional awareness (EA), using emotions (USE), understanding emotions (UDE), and managing emotions (ME)—an 18-item instrument was utilized, drawing upon the frameworks of Mayer and Salovey (1997), Bar-On [42], and Goleman [43]. The internal consistency for each dimension was strong, with Cronbach's alpha values of 0.865, 0.817, 0.888, and 0.849, respectively. Respondents rated statements such as "I am aware of personal feelings when I meet someone" on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Due to an item-total correlation below 0.3, the item coded as USE1 was excluded from further analysis. Confirmatory factor analysis (CFA) confirmed a satisfactory model fit, yielding $\chi 2 = 256.666$, degrees of freedom = 113, $p = 0.000$, with a CMIN/df of 2.271 (within the ideal range of 1–3 as suggested by Kettinger *et al*., 1995). Additional fit indices supported the model's adequacy: CFI = 0.959 (> 0.9), SRMR = 0.057 (< 0.08), RMSEA = 0.059 (< 0.06), and PClose = 0.068 (> 0.05) (Hu & Bentler, 1999), affirming that the dimensions appropriately represented the underlying construct.

Teamwork performance (TP)

A six-item scale developed by Hackman (1990) was applied to assess teamwork performance, yielding a reliability coefficient (α) of 0.876. One representative statement included in the scale was: "My group cooperated to finish the task quickly." Each item was scored on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).

Individual goals (IG)

The construct of individual goals was subdivided into positive individual goals (PIG) and negative individual goals (NIG), evaluated using items from Volet and Mansfield (2006), which demonstrated strong reliability (α = 0.888 for PIG and α = 0.913 for NIG). Items PIG2, PIG4, NIG1, and NIG5 were discarded due to item-total correlations falling below the 0.3 threshold. An illustrative item from the scale is: "My goal is to get good grades and develop skills as a team." Responses were collected using a 5-point Likert format, from 1 (strongly disagree) to 5 (strongly agree).

Forms of grouping (FG)

The dimension forms of grouping encompassed both self-managed teams (SMT) and cross-functional teams (CFT), measured using established instruments from Goodman *et al*. [34] and Webber [35]. The internal consistency scores were α = 0.949 for SMT and α = 0.786 for CFT. A sample item read: "I am willing to express my opinion on issues even when the members of the team think differently." Participants responded on a scale from 1 (strongly disagree) to 5 (strongly agree).

Results and Discussion

Validity assessment (common method bias)

A confirmatory factor analysis (CFA) was performed to verify adequate discriminant validity among the constructs. The model fit the data well, indicated by $\chi 2 = 1187.950$, degrees of freedom (df) = 704, p = 0.000, and a CMIN/df ratio of 1.687, which falls within the acceptable range of 1 to 3 as suggested by Kettinger *et al*. (1995). Additional fit indices further supported the model: CFI = 0.949 (exceeding the 0.9 threshold), SRMR = 0.049 (below 0.08), RMSEA = 0.043 (under 0.06), and PClose = 0.997 (greater than 0.05) according to Hu and Bentler (1999). These findings confirm strong discriminant validity and indicate the absence of common method bias.

Convergent validity was evaluated through three key metrics: factor loadings (standardized estimates), average variance extracted (AVE), and composite reliability (CR). The standardized loadings for all constructs ranged from 0.603 to 0.963, all statistically significant. AVE scores spanned from 0.507 to 0.791, and CR values were between 0.800 and 0.950. Following Hair *et al*. [44], these values fall within acceptable limits, confirming solid convergent validity for the constructs.

Descriptive statistics and correlations

Table 2 presents the means, standard deviations, and correlation coefficients among the study variables. Emotional intelligence demonstrated significant positive correlations with teamwork performance, positive individual goals, and self-managed teams, with r-values of 0.514, 0.555, and 0.489 respectively, all significant at $p < 0.01$. Similarly, teamwork performance showed strong positive associations with positive individual goals (r = 0.600) and self-managed teams (r = 0.625), both significant at $p < 0.01$, while it exhibited a significant negative correlation with negative individual goals (r = -0.240, $p < 0.01$).

Table 2. Means, standard deviations, and correlations among the related variables

	Mean	Std. Deviation	EI	TP	PIG	NIG	SMT	CFT
EI	3.6382	0.52391	1					
TP	3.7531	0.56482	0.514**	1				
PIG	3.9887	0.69560	0.555**	0.600**	1			
NIG	2.8100	0.95311	0.011	-0.240**	-0.165**	1		
SMT	3.8511	0.70629	0.489**	0.625**	0.469**	-0.129*	1	
CFT	3.7829	0.63672	0.007	0.057	0.061	-0.102*	0.092	1

Notes: n = 372; *p < 0.05; **p < 0.01

Hypotheses evaluation

The structural equation modeling (SEM) analysis indicated that the proposed model demonstrated a good fit with the data, reflected by $\chi 2 = 1272.477$, degrees of freedom (df) = 727, p = 0.000, and a CMIN/df ratio of 1.750, which aligns with the acceptable range of 1 to 3 as noted by Kettinger *et al*. [45]. Additional fit indices further confirmed the model's adequacy: CFI = 0.943 (above the 0.9 cutoff), SRMR = 0.06 (below 0.08), RMSEA = 0.045 (under 0.06), and PClose = 0.979 (exceeding 0.05), consistent with Hu and Bentler [46]. The model examines the interrelations among six constructs: emotional

intelligence, teamwork performance, positive individual goals, negative individual goals, self-managed teams, and cross-functional teams.

As illustrated in **Figure 2** and detailed in **Table 3**, the structural model presents standardized path coefficients. The results support hypotheses H1, H2, H3, H5, H8, and H9. Specifically, emotional intelligence exhibits positive effects on teamwork performance, positive individual goals, and self-managed teams, with path coefficients β = 0.167, 0.737, and 0.660, respectively. Both positive individual goals and self-managed teams are positively associated with teamwork performance (β = 0.252 and 0.309, respectively), whereas negative individual goals negatively influence teamwork performance (β = -0.084).

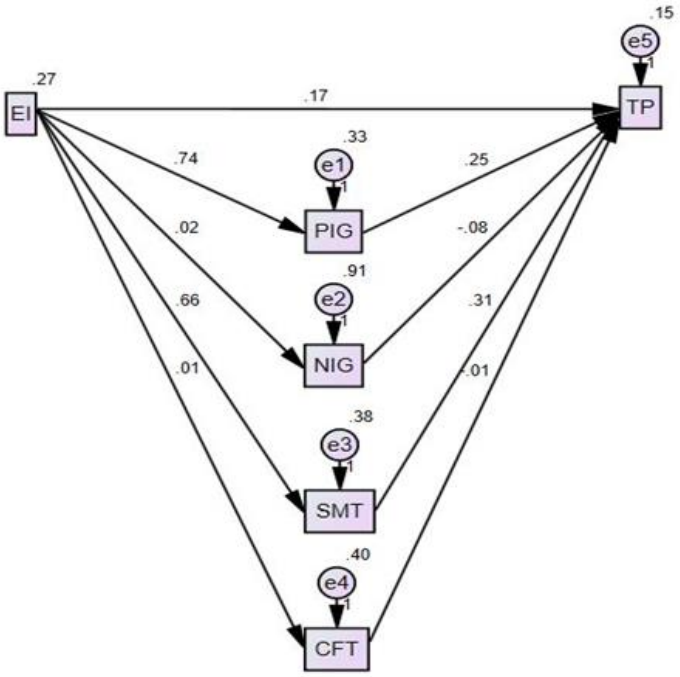

Figure 2. Results of a structural equation modeling

Table 3. The results of the path analysis among variables with standardized regression weights

Relationships	Estimate	S.E	C.R	P-value	Results
EI → TP	0.167	0.050	3.325	***	Supported
EI → PIG	0.737	0.057	12.858	***	Supported
PIG → TP	0.252	0.034	7.322	***	Supported
EI → NIG	0.021	0.094	0.220	0.826	Rejected
NIG → TP	-0.084	0.021	-4.049	***	Supported
EI → SMT	0.660	0.061	10.806	***	Supported
SMT → TP	0.309	0.032	9.567	***	Supported
EI → CFT	0.009	0.063	0.140	0.888	Rejected
CFT → TP	-0.011	0.031	-0.362	0.718	Rejected

The mediation results from PROCESS v3.5 by Andrew F. Hayes are displayed in **Table 4**. Emotional intelligence enhanced teamwork performance through the positive individual goal (βinpositive effect = 0.2721, $p < 0.05$), thus hypothesis H6—that positive individual goals mediate the relationship between emotional intelligence and teamwork performance in university students—was supported. Likewise, self-managed teams mediated the relationship between emotional intelligence and teamwork performance (βinpositive effect = 0.2587, $p < 0.05$), supporting hypothesis H12. However, no mediation was found via negative individual goals or cross-functional teams, leading to the rejection of hypotheses H7 and H13.

Table 4. Mediation test: positive individual goal, negative individual goal, self-managed teams, and cross-functional teams

	Inpositive effects	SE	95% confidence interval	
			LLCI	ULCI
Emotional intelligence → positive individual goal → teamwork performance	0.2721*	0.0351	0.2048	0.3410
Emotional intelligence → negative individual goal → teamwork performance	-0.0030	0.0122	-0.0285	0.0205
Emotional intelligence → self-managed teams→ teamwork performance	0.2587*	0.0395	0.1849	0.3411
Emotional intelligence → cross functional teams→ teamwork performance	0.0004	0.0037	-0.0082	0.0080

Note: Results are based on trimmed scales. LLCI: Lower level of a confidence interval. ULCI: Upper level of a confidence interval. SE: Standard errors. *p < 0.05.

Consistent with the findings from prior research [14, 47–52], this study demonstrates a positive association between emotional intelligence and teamwork performance. Specifically, Gujral and Ahuja [14] emphasize that emotional intelligence is crucial in fostering collaboration when team members unite around a common mission and shared objectives. The capacity to employ social intelligence, interpret personal emotional cues, and manage interpersonal relationships enables students to better navigate the dynamic nature of their academic and work environments. Students who effectively process, recognize, utilize, understand, and regulate emotions benefit from stronger friendships and enhanced receptiveness to instructors, which in turn boosts their professional and social competencies, equipping them with valuable skills for future endeavors.

Earlier studies [29, 53] have also highlighted a favorable link between emotional intelligence and positive individual goals among university students. Such goals tend to inspire motivation and foster diligence within teams, encouraging members to establish clear plans aimed at self-improvement, relationship building, or academic and professional success. Students with a higher capacity for emotional understanding and regulation often reconsider their individual goals with greater sensitivity and purpose, focusing their efforts on achieving positive outcomes with enthusiasm and determination. The present study finds emotional intelligence to be a significant predictor of positive individual goals ($\beta = 0.737$), suggesting that enhancing emotional intelligence can strengthen students' goal attainment in team settings, facilitating smoother and more efficient task completion.

The impact of positive individual goals on teamwork performance is supported by various authors including Boekaerts [54] and Grant *et al*. [53]. Volet and Mansfield [29] further observed that shifts in positive individual goals influence the functioning of student work teams. Goals oriented toward personal achievement, relationship quality, or skill development contribute meaningfully to improved teamwork outcomes.

Regarding negative individual goals, research by Volet and Mansfield [29] confirms their influence on teamwork performance among university students. To maintain a constructive and goal-oriented team atmosphere, leaders and members must minimize negative motivations such as focusing solely on grades or short-term achievements, instead encouraging positive thinking and striving for meaningful accomplishments in academic and professional contexts.

The findings also verify that emotional intelligence has a substantial effect on self-managed teams, reflected by a notable standardized path coefficient ($\beta = 0.660$). This aligns with Gujral and Ahuja's [14] results. Self-managed teams are characterized as decentralized groups responsible for specific organizational tasks and objectives, with clearly articulated team goals aligned with the broader organizational mission. Members of such teams who possess high emotional intelligence tend to better understand and regulate their own emotions while recognizing those of others, which reduces conflict, builds trust, and enhances knowledge sharing within the team. Consequently, self-managed teams comprising students with elevated emotional intelligence tend to achieve superior performance.

Moreover, the study confirms that self-managed teams positively influence teamwork performance, echoing conclusions from earlier research by Cohen and Ledford [55], Goodman *et al*. [34], Kirkman and Rosen [12], and Trist [56]. Efficiently functioning and productive self-managed teams contribute significantly to successful teamwork outcomes. Therefore, fostering the development of self-managed teams is essential for enhancing teamwork performance among university students.

Theoretical implications

Firstly, this research contributes to strengthening existing models that link emotional intelligence with collaborative success, clarifying both direct and indirect pathways through mediating variables such as emotional intelligence and teamwork performance. Secondly, the study highlights that individual goals and team structures influence the connection between emotional intelligence and teamwork performance; thus, targeting these factors could enhance team effectiveness. Thirdly, by focusing specifically on university students, the findings advance understanding of how emotional intelligence theories and teamwork effectiveness apply within this particular context.

Practical implications

In Vietnam, traditional university teaching methods persist [57], compounded by challenges like limited infrastructure, insufficient funding, and weak coordination among administrators, lecturers, and students [58, 59]. These barriers contribute to students' limited skill development, which is a major obstacle for employment post-graduation [60]. This study aims to leverage the relationships identified in the research model to offer recommendations that improve student outcomes by enhancing teamwork performance, a method that fosters essential skills.

For students, several recommendations to boost teamwork performance include:

- First, recognizing the crucial role of emotional intelligence in interpersonal interactions by actively engaging in group activities, building emotional bonds, and enhancing emotional awareness and regulation through learning and experience.
- Second, fostering a positive and sociable atmosphere centered on shared goals and consensus-building, with the team leader facilitating strategies to align group exercises with both collective and individual objectives, strengthening cooperation and communication.
- Third, clearly defining personal goals and employing effective teamwork strategies to achieve these aims; goal clarity motivates purposeful and enthusiastic effort, extending beyond academic grades to broader ambitions like obtaining honors or pursuing studies abroad.
- Fourth, team leaders should set realistic common goals that consider the diverse capabilities and aspirations of members, ensuring individual objectives support collective success.
- Lastly, encouraging the formation of self-managed teams where members independently make decisions about task allocation, workflows, and scheduling, thereby enhancing overall team performance.

For university managers and lecturers, the suggestions are:

- Emphasizing the design of learning environments and physical educational spaces, which Fisher (2005) and Lizzio *et al*. (2010) note significantly influence student academic outcomes[61, 62]. Hillyard *et al*. [63] also highlight that teamwork success depends not only on instructors but also on institutional initiatives to improve the environment. Universities should therefore organize collective activities that create inclusive, dynamic settings for teamwork, promoting student confidence and responsibility.
- Promoting student creativity and motivation through personal achievement in academic subjects, encouraging reflection on individual goals and the identification of efficient ways to meet them.
- Offering workshops or short courses focused on emotional management, goal setting, and collective goal building to strengthen teamwork skills.

Limitations

This study acknowledges several limitations requiring further research. First, the model investigating the link between emotional intelligence and teamwork performance through mediators is restricted to university students. Second, only selected scales influencing this relationship were examined, indicating the need for future research to explore additional variables. Third, demographic differences among university students were not analyzed to assess their impact on emotional intelligence and teamwork. Lastly, the use of convenience sampling from universities in Hanoi's economic sector may limit the generalizability of findings to the wider population of Vietnamese undergraduates.

Conclusion

Through a mixed qualitative and quantitative approach, this study explored how emotional intelligence relates to teamwork performance directly and indirectly via individual goals and team types. Results indicate emotional intelligence positively correlates with teamwork performance, positive individual goals, and self-managed teams; positive individual goals and self-managed teams, in turn, enhance teamwork performance, whereas negative individual goals negatively impact it. Furthermore, positive individual goals and self-managed teams mediate the effect of emotional intelligence on teamwork performance among university students. Based on these findings, practical recommendations were made for university administrators, lecturers, and students in Vietnam to promote factors that effectively improve teamwork outcomes.

Acknowledgments: None

Conflict of interest: None

Financial support: This study received funding from National Economics University, Hanoi, Vietnam.

Ethics statement: None

References

1. Hackman MZ, Walker KB. Instructional communication in the televised classroom: the effects of system design and teacher immediacy on student learning and satisfaction. Commun Educ. 1990;39(3):196-206.
2. Marin-Garcia JA, Lloret J. Improving teamwork with university engineering students: the effect of an assessment method to prevent shirking. WSEAS Trans Adv Eng Educ. 2008;5(1):1-11.

3. Gatfield T. Examining student satisfaction with group projects and peer assessment. Assess Eval High Educ. 1999;24(4):365-77.
4. Holtham CW, Melville RR, Sodhi MS. Designing student group work in management education: widening the palette of options. J Manag Educ. 2006;30(6):809-17.
5. Kalliath T, Laiken M. Use of teams in management education. J Manag Educ. 2006;30(6):747-50.
6. Bacon DR, Stewart KA, Silver WS. Lessons from the best and worst student team experiences: how a teacher can make the difference. J Manag Educ. 1999;23(5):467-88.
7. O'Doherty DM. Working as part of a balanced team. Int J Eng Educ. 2005;21(1):113-20.
8. Brackett MA, Mayer JD. Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. Pers Soc Psychol Bull. 2003;29(9):1147-58.
9. Peterson CH. Building the emotional intelligence and effective functioning of student work groups: evaluation of an instructional program. Coll Teach. 2012;60(3):112-21.
10. Martinez-Pons M. The relation of emotional intelligence with selected areas of personal functioning. Imagin Cogn Pers. 1997;17(1):3-13.
11. Ali M, Alhajjaji A, Kurdi A, Faqeh S, Alansari S, Abdulaziz A, et al. Returning in 'new normal'–a thematic analysis of Twitter chat by pharmacy students. J Adv Pharm Educ Res. 2021;11(1):53-62. doi:10.51847/tIFAwAb
12. Kirkman BL, Rosen B. Beyond self-management: antecedents and consequences of team empowerment. Acad Manag J. 1999;42(1):58-74.
13. Lovelace K, Shapiro DL, Weingart LR. Maximizing cross-functional new product teams' innovativeness and constraint adherence: a conflict communications perspective. Acad Manag J. 2001;44(4):779-93.
14. Gujral HK, Ahuja J. Impact of emotional intelligence on teamwork–a comparative study of self-managed and cross-functional teams. Int J Multidiscip Res. 2011;1(6):178-85.
15. Salovey P, Mayer JD. Emotional intelligence. Imagin Cogn Pers. 1990;9(3):185-211.
16. Gardner H. Frames of mind: the theory of multiple intelligences. New York: Basic Books; 1983.
17. Mayer JD, Salovey P. What is emotional intelligence. In: Salovey P, Sluyter D, editors. Emotional development and emotional intelligence: educational implications. New York: Basic Books; 1997. p. 3-31.
18. Goleman D. Working with emotional intelligence. New York: Bantam Books; 1998.
19. Mayer JD, Caruso DR, Salovey P. Emotional intelligence: theory, practice, and implications. Psychol Inq. 2004;15:197-215.
20. Goleman D. What makes a leader? Harv Bus Rev. 2004;82(1):82-91.
21. Issah M. Change leadership: the role of emotional intelligence. SAGE Open. 2018;8(3):2158244018800910.
22. Yost CA, Tucker ML. Are effective teams more emotionally intelligent? Confirming the importance of effective communication in teams. Delta Pi Epsilon J. 2000;42(2):101.
23. van Offenbeek M. Processes and outcomes of team learning. Eur J Work Organ Psychol. 2001;10(3):303-17.
24. McCallin A, Bamford A. Interdisciplinary teamwork: is the influence of emotional intelligence fully appreciated? J Nurs Manag. 2007;15(4):386-91.
25. Stephens JP, Carmeli A. The positive effect of expressing negative emotions on knowledge creation capability and performance of project teams. Int J Proj Manag. 2016;34(5):862-73.
26. Clarke N. Emotional intelligence and its relationship to transformational leadership and key project manager competencies. Proj Manag J. 2010;41(2):5-20.
27. Arfara C, Samanta I. The impact of emotional intelligence on improving team-working: the case of public sector (National Centre for Public Administration and Local Government-NCPALG). Procedia Soc Behav Sci. 2016;230:167-75.
28. Locke EA, Latham GP. Building a practically useful theory of goal setting and task motivation: a 35-year odyssey. Am Psychol. 2002;57(9):705.
29. Volet S, Mansfield C. Group work at university: significance of personal goals in the regulation strategies of students with positive and negative appraisals. High Educ Res Dev. 2006;25(4):341-56.
30. Sushil S. Motivation and retention: HR strategies in achieving quality of work life. Glob J Manag Bus Stud. 2013;3(7):763-8.
31. Stajkovic AD, Lee D, Nyberg AJ. Collective efficacy, group potency, and group performance: meta-analyses of their relationships, and test of a mediation model. J Appl Psychol. 2009;94(3):814.
32. Moravec M, Johannessen OJ, Hjelmas TA. The well-managed SMT. Manag Rev. 1998;87(6):56-9.
33. Zafft CR, Adams SG, Matkin GS. Measuring leadership in self-managed teams using the competing values framework. J Eng Educ. 2009;93(3):273-82.
34. Goodman PS, Devadas R, Hughson TL. Groups and productivity: analyzing the effectiveness of self-managing teams. In: Productivity in organizations. 1988. p. 295-327.

35. Webber SS. Leadership and trust facilitating cross-functional team success. J Manag Dev. 2002;21(3):201-14.
36. Bunduchi R. Implementing best practices to support creativity in NPD cross-functional teams. Int J Innov Manag. 2009;13(4):537-54.
37. Tabrizi BN. Rapid transformation: a 90-day plan for fast and effective change. Boston (MA): Harvard Business School Publishing; 2007.
38. Korotaeva MS. The development of personal self-regulation of the cadets. J Adv Pharm Educ Res. 2021;11(1):91-104. doi:10.51847/YZIHyPh
39. Griffin A. The effect of project and process characteristics on product development cycle time. J Mark Res. 1997;34(1):24-35.
40. Lehner JA. Teamwork, emotional intelligence, and the skills organizations need now. Adv Libr Adm Organ. 2020;41:143-56.
41. Horwitz SK. The compositional impact of team diversity on performance: theoretical considerations. Hum Resour Dev Rev. 2005;4(2):219-45.
42. Bar-On R. BarOn emotional quotient inventory. Toronto: Multi-Health Systems; 1997.
43. Goleman D. An EI-based theory of performance. In: Cherniss C, Goleman D, editors. The emotionally intelligent workplace: how to select for, measure, and improve emotional intelligence in individuals, groups, and organizations. San Francisco (CA): Jossey-Bass; 2001. p. 27-44.
44. Hair JF, Anderson RE Jr, Tatham RL, Black WC. Multivariate data analysis. 7th ed. Upper Saddle River (NJ): Pearson Prentice Hall; 2010.
45. Kettinger WJ, Lee CC, Lee S. Global measures of information service quality: a cross-national study. Decis Sci. 1995;26(5):569-88.
46. Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. Struct Equ Modeling. 1999;6(1):1-55.
47. Goleman D. Emotional intelligence: why it can matter more than IQ. New York: Bantam Books; 1995.
48. Verona G. A resource-based view of product development. Acad Manag Rev. 1999;24(1):132-42.
49. Tucker ML, Sojka JZ, Barone FJ, McCarthy AM. Training tomorrow's leaders: enhancing the emotional intelligence of business graduates. J Educ Bus. 2000;75(6):331-7.
50. Cherniss C. Emotional intelligence and organizational effectiveness. In: Cherniss C, Goleman D, editors. The emotionally intelligent workplace. San Francisco (CA): Jossey-Bass; 2001. p. 3-12.
51. Brackett MA, Mayer JD, Warner RM. Emotional intelligence and its relation to everyday behavior. Pers Individ Dif. 2004;36(6):1387-402.
52. Troth AC, Jordan PJ, Lawrence SA. Emotional intelligence, communication competence, and student perceptions of team social cohesion. J Psychoeduc Assess. 2012;30(4):414-24.
53. Grant OM, Davies MJ, Johnson AW, Simpson DW. Physiological and growth responses to water deficits in cultivated strawberry (Fragaria × ananassa) and in one of its progenitors, Fragaria chiloensis. Environ Exp Bot. 2012;83:23-32.
54. Boekaerts M. Bringing about change in the classroom: strengths and weaknesses of the self-regulated learning approach—EARLI presidential address, 2001. Learn Instr. 2002;12(6):589-604.
55. Cohen SG, Ledford GE Jr. The effectiveness of self-managing teams: a quasi-experiment. Hum Relat. 1994;47(1):13-43.
56. Trist E. A concept of organizational ecology. Aust J Manag. 1977;2(2):161-75.
57. Nguyen THV, Dong VH. The solutions for improving the education quality of university in Vietnam. World Wide J Multidiscip Res Dev. 2017;3(7):235-8.
58. Dapice D, Perkins D, Nguyen XT, Vu TTA, Huynh TD, Pincus J, et al. Choosing success: the lessons of East and Southeast Asia and Vietnam's future. Cambridge (MA): Harvard University; 2008.
59. Tran J. Vietnamese higher education and the issue of enhancing graduate employability. J Teach Learn Grad Employab. 2012;3(1):2-16.
60. Tran TT. Limitation on the development of skills in higher education in Vietnam. High Educ. 2013;65(5):631-44.
61. Fisher K. Research into identifying an effective learning environment. In: Evaluating quality in educational facilities. Paris: Organisation for Economic Co-operation and Development, Programme on Educational Building; 2005. p. 159-67.
62. Lizzio A, Wilson K, Simons R. University students' perceptions of the learning environment and academic outcomes: implications for theory and practice. Stud High Educ. 2010;27(1):27-52.
63. Hillyard C, Gillespie D, Littig P. University students' attitudes about learning in small groups after frequent participation. Act Learn High Educ. 2010;11(9):9-20.