

The Eurasia Proceedings of Educational & Social Sciences (EPESS), 2024

Volume 37, Pages 16-24

**IConMEB 2024: International Conference on Management Economics and Business**

## **Perception and Interpretation of Team Development Phases and Their Changes: Factors Influencing Team Development**

**Meszaros Adam**  
Obuda University

**Abstract:** The purpose of this research is to evaluate team development and effectiveness in light of the fundamental phases of team dynamics (forming, storming, norming, performing) and the impact of various intra-team issues. The literature review presents these phases, which help in understanding the developmental journey and challenges of teams, as well as factors that can potentially influence teamwork. The quantitative research included 948 respondents, who were asked to assess the extent to which their team had succeeded in developing through collaborative work. The results indicate that the majority of team members positively evaluated their team's progress, especially when they perceived the different phases of team development. A significant correlation was found between the impact of various internal team issues and team development. The findings confirm that recognizing and consciously managing the phases of team dynamics, along with implementing appropriate training, communication, and feedback practices, substantially contribute to team development and effectiveness. Based on the results, recommended actions include raising awareness of the various team phases among members and introducing development programs that promote effective communication and regular feedback, especially during team-building events, to foster trust and enhance internal team understanding.

**Keywords:** Team phases, Team development, Teamwork, Project, Team dynamics

### **Introduction**

Teamwork refers to when a group of individuals collaborates on a task or project to achieve a common goal. This process involves sharing responsibilities, communicating, making decisions, and working together. Through teamwork, individuals support each other and take responsibility for shared success (Rydenfält et al., 2017). Teamwork does not always follow a strict "collaboration – non-collaboration" dichotomy. In reality, the dynamics are much more nuanced, as interactions among team members are constantly evolving, and the level of collaboration fluctuates (Freeman et al., 2011).

The key to effective teamwork is open and honest communication, enabling team members to understand each other's ideas, provide feedback, and find collective solutions to emerging challenges (Shirley et al., 2024). Effective communication allows team members to coordinate actions, understand each other's roles, and ensure everyone has the necessary information to complete tasks successfully (Lo et al., 2020). Open and honest communication promotes transparency, strengthens teamwork, and ensures everyone is on the same page (Ewim et al., 2024). This is particularly true and relevant for the harmonisation of different generations at work (Garai-Fodor, et al., 2023; Garai-Fodor & Jäckel, 2024).

Strengthening personal relationships among team members enhances communication efficiency, improves coordination, and promotes collaboration. A study supports that familiarity among team members is closely linked to the quality of teamwork, particularly in areas like communication, coordination, balanced task allocation, mutual support, and team cohesion (Hoegl & Proserpio, 2004). Interestingly, knowing each other well is not always sufficient for effective collaboration. Research has shown that when team members work at different paces (pacing style diversity), familiarity only led to better collaboration if supported by thorough

---

- This is an Open Access article distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

- Selection and peer-review under responsibility of the Organizing Committee of the Conference

© 2024 Published by ISRES Publishing: [www.isres.org](http://www.isres.org)

action planning. This suggests that, in addition to familiarity, well-structured processes may also be necessary for effective teamwork (Gevers et al., 2016).

The skills and attitudes of team members significantly impact team performance. In cybersecurity teams, for example, cohesion, mutual trust, and shared mental models are attitudinal factors essential for effective collaboration and achieving shared goals (Sinlapanuntakul et al., 2022). In geoscience teams, transitional skills such as clear goal-setting and precise task interpretation are critical for success. Additionally, action skills like metacognition and coordination are key, while interpersonal skills, including emotional intelligence and proactive communication, ensure effective collaboration among team members (Nyarko & Petcovic, 2022).

In addition to technical knowledge, skills such as task management, confidence, situational awareness, and effective decision-making are essential, especially in unexpected or critical situations (Gabr, 2019). For effective teamwork, it is also essential to identify with agile values, which have been brought to life by the need for a rapidly changing environment. An agile approach fosters values in teams that help members overcome challenges and achieve better results (Varga, 2023). Identifying with agile values is therefore essential, especially for the younger generation who will operate in an agile rather than a traditional environment in the current economic trends (Tóth & Csiszárík-Kocsir, 2023a, 2023b).

Sustainability competencies, which can be developed on both cognitive and emotional levels, contribute to making teams more innovative (Nair & Bhattacharyya, 2022). According to Bruce Tuckman's classic 1965 model, small groups go through four well-defined stages: forming, storming, norming, and performing. This model remains a foundational reference in group dynamics research and is applied across various fields, including software development, education, and virtual communities (McGrew et al., 1999). Interestingly, some studies have proposed modifications or additions to Tuckman's original model. For example, McGrew and colleagues suggested an extended phase model that includes decline phases: de-norming, de-storming, and de-forming, reflecting the formation and dissolution of teams. Other researchers have added phases such as "adjourning" (the disbanding phase) or additional phases like "conforming" and "deforming" (Willhelmus, 2019).

Overall, the Tuckman model provides a useful framework for understanding and managing team development across various contexts, from software development to education. It can aid leaders and team members in better handling team dynamics and expectations during different stages of development (McGrew et al., 1999; McMorris et al., 2005).

The phases according to the original model are:

1. **Forming:** The team has just been established, and members are getting acquainted with each other and with the shared task. They are excited about what lies ahead.
2. **Storming:** Disagreements and conflicts arise among team members as they attempt to find their place within the team.
3. **Norming:** The team establishes common rules to work more smoothly together, with training sessions helping to facilitate this process.
4. **Performing:** The team has become cohesive, working well together and successfully completing their tasks. Their collaboration is effective and productive (Zirar et al., 2023).

The forming phase of team development, or team formation, serves as the foundation of team-building. During this stage, team members get to know each other based on first impressions and are more focused on individual goals than on collaborative work. Members are generally polite and cautious, and team roles and norms have not yet been established. The successful completion of this phase is crucial for the team's future effectiveness (Hope et al., 2005; Sullivan et al., 2002). Interestingly, this phase can also be observed in other living organisms, such as leeches, which experience a similar stage when they first encounter one another in a new environment before forming a more stable group (Bisson et al., 2012).

In the forming phase, team members meet each other for the first time and begin the process of mutual understanding. This stage involves forming initial impressions and engaging in early interactions. The establishment of shared values and goals, as well as the development of shared cognition, begins in this phase, laying the groundwork for future team cohesion and effective collaboration (Pellet et al., 2023; Chen et al., 2017).

In the forming phase, the team establishes the basic structures and norms that will define its future operations. This period is crucial as it lays the foundation upon which the team can build and determine its long-term success. However, it's important to note that this stage alone is not sufficient for sustained success. Team development is a process, with further stages (norming, storming, performing) essential for continued growth (Kim & Iwuchukwu, 2022).

During the storming phase of team development, conflicts and disagreements are common as team members compete for roles and try to establish their positions within the group. Although this stage is challenging, it plays an important role in team building, as it helps uncover hidden issues and fosters the growth of team cohesion (Holmes, 2010). In this phase, leaders play a critical role in effectively managing emerging conflicts. Building trust, fostering open and honest communication, and ensuring equal treatment of all team members are essential for maintaining team cohesion and facilitating successful collaboration (Wang, 2015). According to Tuckman's model, in the norming phase, relationships among team members stabilize, and the norms and procedures that guide the team's functioning are established. Increased collaboration and a shared commitment to achieving common goals help the team overcome the challenges encountered during the storming phase (Azam et al., 2024; Wilhelmus, 2019; Chen et al., 2017).

In the final phase, team members work in synergy, teamwork becomes highly productive, and they achieve success while focusing on shared goals and supporting each other. This stage may also introduce a new communication type, known as consensual conversation, which can further enhance the group's productivity (Zirar et al., 2023; Akan, 2005). From the perspective of team dynamics and cohesion, it is essential for team members to be aware of their current development stage, as understanding which phase they are in can help them interpret conflicts, team interactions, and apply appropriate communication styles (Elyousfi et al., 2021; Troth et al., 2012).

It is not only important for the team itself but also for leaders to recognize the developmental stage of each team. This awareness enables leaders to select the necessary leadership method and style to support the team, allowing it to develop and progress effectively through each phase (Chiniara & Bentein, 2017; Goyal et al., 2024). The model's wide applicability is evidenced by its use in military training, where methods emphasize the recognition and importance of team phases to enhance performance and cohesion (Patton- Jr, 2023). Recognizing team phases can facilitate intentional development and performance improvement in group work. For leaders, it aids in targeted interventions, and for the team, it enables forward progress, as both perspectives ultimately aim for better results (Choi et al., 2018; Kasemsap, 2013; Soetanto et al., 2024).

## **Method**

The data for this research was collected through an online survey conducted in Hungary during the second and third quarters of 2024. The questionnaire was designed in compliance with GDPR regulations to ensure anonymity and was distributed in a standardized, pre-tested format. Data collection was carried out using the snowball sampling method, resulting in a total of 948 responses. Responses labeled as "I don't know/no answer" were excluded from the database during analysis.

The target group for the questionnaire included anyone currently studying or having previously studied, regardless of their field or level of education. The survey was widely distributed via social media, academic forums, and educational institutions. For data collection and analysis, Google Forms, Google Sheets, Microsoft Excel, and IBM SPSS software were utilized. Statistical methods applied included descriptive statistics, histograms and distribution curves, correlation analyses, one-way ANOVA, the related Tukey HSD post-hoc test, and independent sample t-tests.

## **Research**

The primary focus of the research is to examine whether teams generally showed improvement during teamwork and to analyze the factors influencing this development, along with team composition. The descriptive statistical results of the analysis assess the extent to which respondents perceived team development during collaborative work, on a scale from 1 to 4, where 1 means "not at all successful" and 4 means "completely successful." The sample size is  $N = 948$ .

The average rating for team development approaches the upper end of the scale (mean = 3.04), indicating that most respondents had a positive view of team progress. The median value is also 3, which further confirms that the majority of respondents rated team development toward the higher end of the scale. The most frequent response was also 3, suggesting that most respondents found team development to be "rather successful." The standard deviation (Std. Deviation) is 0.697, showing that responses did not deviate significantly from the mean, which indicates a relatively high level of agreement among respondents regarding their perception of team development.

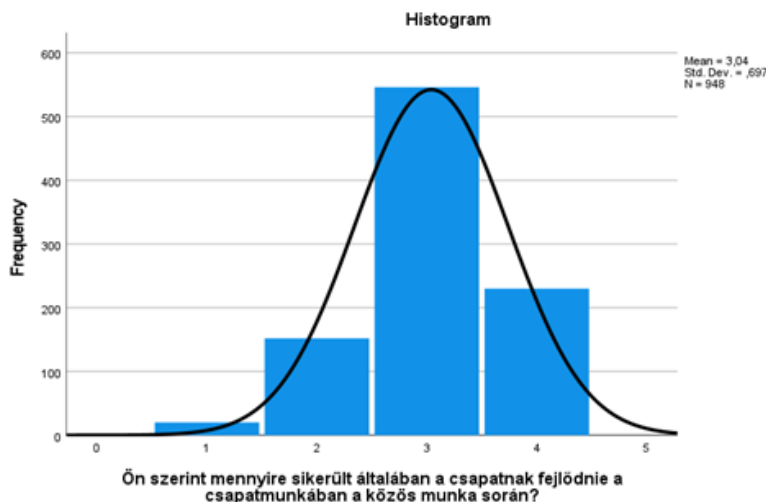


Figure 1. Histogram and normal distribution curve: How successful wa the team in developing?  
(Source: Own research, IBM SPSS, N=948, 2024Q3)

The distribution of responses approaches a normal distribution but is slightly skewed to the right. Very few respondents rated the team’s development as "not successful at all" (2.1%, N = 20). A smaller portion of respondents felt that the team’s development was only slightly successful (16.0%, N = 152). The majority of respondents selected the option indicating that they viewed the team’s development rather positively (57.6%, N = 546). Nearly a quarter of respondents believed the team’s development was fully successful (24.3%, N = 230). An independent samples t-test was conducted to examine whether there is a difference in the perception of team development between those who selected their own teammates and those who were assigned to a team (e.g., by a leader or instructor).

Based on the averages, it appears that those who chose their own teammates rated team development slightly higher (mean = 3.06, standard deviation = 0.696, N = 758) than those who were assigned to a team (mean = 3.01, standard deviation = 0.614, N = 144). However, this difference is minimal. The significance level (Sig = 0.452) indicates that the difference between the two groups is not statistically significant (Sig > 0.05). This means that there is no significant difference in the perception of team development depending on whether respondents chose their teammates or were assigned to a team. An ANOVA and the associated Tukey post hoc test were conducted to analyze whether there is a difference in the perception of team development among respondents, depending on the frequency of team composition changes:

- Those who work with the same team members in every course/subject: mean = 3.27, standard deviation = 0.684, N = 90.
- Those who mostly work with the same team members: mean = 3.10, standard deviation = 0.713, N = 438.
- Those who rarely work with the same team members: mean = 2.82, standard deviation = 0.587, N = 102.
- Those who work with different team members in each course/subject: mean = 2.98, standard deviation = 0.696, N = 244.

Table 1. ANOVA analysis: Team development and team composition

	Sum of Squares	df	Mean Square	F
Between Groups	11,733	3	3,911	8,174
Within Groups	416,249	870	0,478	
Total	427,982	873		

The result indicates a statistically significant difference between the groups (Sig = 0.00), meaning that the perception of team development varies depending on the consistency of team members:

- Between those who work with the same team members in every course/subject and those who rarely work with the same team members: the difference is significant (Sig = 0.000), suggesting that individuals in stable teams rate team development higher than those in less stable teams.
- Between those who work with the same team members in every course/subject and those who work with different team members per course/subject: there is also a significant difference (Sig = 0.002), again favoring the more stable teams.
- Between those who mostly work with the same team members and those who rarely work with the same team members: the difference is significant (Sig = 0.004).
- Between those who mostly work with the same team members and those who work with different team members per course/subject: there is likewise a significant difference (Sig = 0.002).

These findings indicate that stability in team composition tends to lead to higher ratings of team development.

### *Examination of Team Phases*

For each team phase, one-way ANOVA tests and Tukey post hoc tests were conducted to analyze whether there is a significant difference in the perception of team development among team members, depending on whether they perceived the different phases of team formation. For the forming phase, the following responses were received:

Table 2. Descriptive statistics: Forming phase

	N	Mean	Std. Deviation
It was unrecognizable	100	2,92	0,774
It was recognizable and unchanged	374	2,98	0,694
It was recognizable and changed	372	3,16	0,691
Total	846	3,05	0,708

Based on the averages, team members who recognized the forming phase and experienced change within it rated team development higher than those who did not perceive this phase or experience change.

Table 3. ANOVA analysis: Team development and forming phase

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,769	2	3,885	7,869	0,000
Within Groups	416,146	843	0,494		
Total	423,915	845			

The results (Sig = 0.000) indicate that the perception of team development is more positive when team members recognize the team's forming phase, especially if they also experience change within it. This suggests that the assessment of team development improves when team members are aware of the team's formation phases and perceive ongoing changes in the process. For the storming phase, the following responses were received:

Table 4. Descriptive statistics: Storming phase

	N	Mean	Std. Deviation
It was unrecognizable	262	3,01	0,716
It was recognizable and unchanged	248	3,04	0,735
It was recognizable and changed	330	3,09	0,687
Total	840	3,05	0,711

Based on the averages, it appears that the perception of team development slightly improves if team members recognized the storming phase, especially if they also experienced change within this phase. However, the significance level (Sig = 0.356) indicates that there is no statistically significant difference in the perception of team development among the three groups. For the norming phase, the following responses were received:

Table 5. Descriptive statistics: Norming phase

	N	Mean	Std. Deviation
It was unrecognizable	120	2,80	0,774
It was recognizable and unchanged	324	3,07	0,722
It was recognizable and changed	382	3,12	0,673
Total	826	3,05	0,715

The results indicate that those who perceived the team’s norming phase and experienced change within it rated team development higher than those who did not perceive the phases or experience change. Since the ANOVA significance level is 0.000, the result is statistically significant. The post hoc test also confirmed that the perception of team development is more positive when team members recognize the team’s norming phase, and the presence of change further enhances the assessment of development.

Table 6. ANOVA analysis: Team development and norming phase

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,489	2	4,745	9,474	0,000
Within Groups	412,167	823	0,501		
Total	421,656	825			

For the performing phase, the following responses were received:

Table 7. Descriptive statistics: Performing phase

	N	Mean	Std. Deviation
It was unrecognizable	70	2,83	0,816
It was recognizable and unchanged	320	2,99	0,708
It was recognizable and changed	440	3,14	0,661
Total	830	3,05	0,700

Those who perceived the phases of team formation and experienced change rated team development higher than those who did not perceive these phases or experience change. This result is statistically significant (Sig = 0.000).

Table 8. ANOVA analysis: Team development and performing phase

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,956	2	3,978	8,272	0,000
Within Groups	397,711	827	0,481		
Total	405,667	829			

*Examination of Intra-Team Issues*

Each potential issue and its impact on team development were analyzed using correlation analysis. There is a weak but positive correlation between the lack of communication as a potential negative influence on team development and the perception of team development. In teams where the lack of communication is seen as less of an issue, team development tends to be more prominent. This may suggest that, although team development is viewed positively, there is still room for improvement in communication.

Table 9. Correlation: Between team development and lack of communication

		Team development	Communication
Team development	Pearson Correlation	1	0,077
	Sig. (2-tailed)		0,018
	N	948	930
Communication	Pearson Correlation	0,077	1
	Sig. (2-tailed)	0,018	
	N	930	930

There is also a weak but positive correlation between team development and unequal task distribution. Those who rate team development more positively tend to perceive unequal task distribution as somewhat less of an issue.

Table 10. Correlation between team development and unequal task distribution

		Team development	Knowing each other
Team development	Pearson Correlation	1	0,075
	Sig. (2-tailed)		0,022
	N	948	932
Knowing each other	Pearson Correlation	0,075	1
	Sig. (2-tailed)	0,022	
	N	932	932

The correlation value is weak but statistically significant between the presence of necessary skills for the task and the perception of team development. Respondents who felt that the team developed successfully were less likely to perceive the lack of skills as a problem.

Table 11. Correlation between team development and necessary skills

		Team development	Task distribution
Team development	Pearson Correlation	1	0,113
	Sig. (2-tailed)		0,001
	N	948	926
Task distribution	Pearson Correlation	0,113	1
	Sig. (2-tailed)	0,001	
	N	926	926

The weak positive correlation suggests a modest relationship between the perception of team development and the lack of familiarity among team members. Respondents who felt that team development was successful tended to view the lack of familiarity among team members as a somewhat lesser obstacle. As a final point, feedback within the team was examined, showing a significant but weak positive correlation. Participants who generally rated team development positively tended to rate the lack of feedback as less of an issue.

Table 12. Correlation between team development and knowing each other

		Team development	Skills
Team development	Pearson Correlation	1	0,118
	Sig. (2-tailed)		0,000
	N	948	922
Skills	Pearson Correlation	0,118	1
	Sig. (2-tailed)	0,000	
	N	922	922

## Conclusion

The research findings support that the perception of team development is closely related to the recognition and management of the different phases of team dynamics. Teams that progress through the developmental phases (forming, storming, norming, performing) and whose members perceive these phases and experience changes are more likely to report positive development. Team leaders might find it beneficial to establish practices that encourage regular self-assessment within teams, allowing them to observe, interpret, and make collective decisions on internal changes based on these phases. The option to choose teammates had minimal impact on the perception of team development; however, systematic support for feedback and communication proved essential for enhancing cohesion and satisfaction within the team. The opportunity for feedback, whether in a structured format or through informal team discussions, helps team members respond to collaborative efforts and recognize directions and opportunities for growth. Where possible, it may be advantageous to ensure that team members work together in the same team for extended periods, as this can improve collaboration and positively influence perceptions of team development. Several aspects emerged regarding team development, which can be addressed through organized team-building activities and training. Introducing team members to each other's skills, expertise, and strengths, as well as familiarizing them with each other's roles and responsibilities, can help build trust and foster more effective collaboration.

## Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS Journal belongs to the authors.

## **Acknowledgements or Notes**

\* This article was presented as an oral presentation at the International Conference on Management Economics and Business ([www.iconmeb.net](http://www.iconmeb.net)) held in Antalya/Turkey on November 13-16, 2024

## **References**

- Akan, O. H. (2005). The role of concrescent conversation in the performing stage of work groups. *Team Performance Management: An International Journal*, 11(1-2), 51–62.
- Azam, N. S., Jamrus, M. H. M., Abas, N. A., & Zubbir, N. (2024). The influence of group work stages among learners in learning English language. *International Journal of Research and Innovation in Social Science*, 8(IIIS), 3754–3767.
- Bisson, G., Bianconi, G., & Torre, V. (2012). The dynamics of group formation among leeches. *Frontiers in Physiology*, 3, 133.
- Chen, M. H., Chang, Y. C., & Chang, Y. Y. (2017). The trinity of entrepreneurial team dynamics: Cognition, conflicts and cohesion. *International Journal of Entrepreneurial Behavior & Research*, 23(6), 934–951.
- Chiniara, M., & Bentein, K. (2017). The servant leadership advantage: When perceiving low differentiation in leader-member relationship quality influences team cohesion, team task performance and service OCB. *The Leadership Quarterly*, 29(2), 333–345.
- Choi, E. H., Kim, E.-K., & Kim, P. B. (2018). Effects of the educational leadership of nursing unit managers on team effectiveness: Mediating effects of organizational communication. *Asian Nursing Research*, 12(2), 99–105.
- Elyousfi, F., Dalmasso, A., & Anand, A. (2021). Impact of e-leadership and team dynamics on virtual team performance in a public organization. *International Journal of Public Sector Management*, 34(5), 508–528.
- Ewim, C., Achumie, G., Adeleke, A., Okeke, I., & Mokogwu, C. (2024). Developing a cross-functional team coordination framework: A model for optimizing business operations. *International Journal of Frontline Research in Multidisciplinary Studies*, 4(1), 015–034.
- Freeman, J. W., Stern, M. J., Mortimer, M., Blahna, D. J., & Cerveny, L. K. (2011). Interdisciplinary collaboration within project-level NEPA teams in the US Forest Service. *Journal of Environmental Planning and Management*, 54(5), 597–615.
- Gaing, S., Shirley, A., Abdullah, B. F., & Dioso, R. I. (2024). Enhancing teamwork through effective handover practices among nurses in elder care setting. *The Malaysian Journal of Nursing (MJN)*, 15(4), 100-108.
- Garai-Fodor, M., & Jäckel, K. (2024). Generational and regional differences in job choice preferences and motivations. *Acta Polytechnica Hungarica*, 21(9), 201-218.
- Garai-Fodor, M., Vasa, L., & Jäckel, K. (2023). Characteristics of segments according to the preference system for job selection, opportunities for effective incentives in each employee group. *Decision Making: Applications in Management and Engineering*, 6(2), 557-580.
- Gevers, J. M. P., Li, J., & Rispens, S. (2016). Pacing style diversity and team collaboration: The moderating effects of temporal familiarity and action planning. *Group Dynamics: Theory, Research, and Practice*, 20(2), 78–92.
- Goyal, S., Derashri, D., Sood, G., Thakur, D., Kopare, D., Sharma, R., & Kalidhas, A. (2024). In-depth assessment of the influence of leadership styles on team performance through the lens of wisdom leadership. *Evolutionary Studies In Imaginative Culture*, 8(1), 781–791.
- Hoegl, M., & Proserpio, L. (2004). Team member proximity and teamwork in innovative projects. *Research Policy*, 33(8), 1153–1165.
- Holmes, M. H. (2010). Modeling team-development lifecycle in public administration courses. *Journal of Public Affairs Education*, 16(1), 53–66.
- Hope, J. M., Myers, S., Jeanty, F., Jones, S., Meyer, R., Lugassy, D., Cramer, E., Mitchell, R., & Bradley, J. (2005). Bringing interdisciplinary and multicultural team building to health care education: The downstate team-building initiative. *Academic Medicine*, 80(1), 74–83.
- Kasemsap, K. (2013). Strategic business management: A practical framework and causal model of empowering leadership, team cohesion, knowledge-sharing behavior, and team performance. *Journal of Social and Development Sciences*, 4(3), 100–106.



- Kim, D., & Iwuchukwu, O. F. (2022). Improving team dynamics for project based learning in pharmacy: A multimodal approach. *Currents in Pharmacy Teaching and Learning*, 14(5), 655–663.
- Lo, S. Y., Short, E. S., & Thomaz, A. L. (2020). Planning with partner uncertainty modeling for efficient information revealing in teamwork. In *Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 319-327).
- McGrew, J. F., Bilotta, J. G., & Deeney, J. M. (1999). Software team formation and decay. *Small Group Research*, 30(2), 209–234.
- Mcmorris, L. E., Gottlieb, N. H., & Sneden, G. G. (2005). Developmental stages in public health partnerships: A practical perspective. *Health Promotion Practice*, 6(2), 219–226.
- Nair, A. K. S., & Bhattacharyya, S. S. (2022). Sustainability competencies and its link to innovation capabilities. *European Business Review*, 34(6), 819–836.
- Patton -Jr, T. (2023). Strategies for enhanced cohesion and performance: lessons from military training and team building. *Journal of Innovations*.
- Pellet, J., Gabarrot, F., Laurin, R., & Campo, M. (2023). Fostering team dynamics in team sports: a low-constraint social identity protocol. *PsyArXiv*. Retrieved from <https://europepmc.org/article/ppr/ppr741030>
- Pellet, J., Gabarrot, F., Laurin, R., & Campo, M. (2023, October 11). Fostering team dynamics in team sports: A low-constraint social identity protocol. <https://doi.org/10.31234/osf.io/rkb5n>
- Rydenfält, C., Odenrick, P., & Larsson, P. A. (2017). Organizing for teamwork in healthcare: An alternative to team training? *Journal of Health Organization and Management*, 31(3), 347–362.
- Sinlapanuntakul, W., Keebler, J. R., & Fausett, C. M. (2022). Exploring team competencies in cybersecurity. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 66(1), 1110–1114.
- Soetanto, D., Franco-Leal, N., & Larty, J. (2024). Strategic orientation and new product development performance of academic spin-offs: The importance of team cohesion and team heterogeneity. *IEEE Transactions on Engineering Management*, 71, 2853–2864.
- Sullivan, J. F., Knight, D. W., & Carlson, L. E. (2002). Team building in lower division projects courses. In *32nd Annual Frontiers in Education*, ( Vol.1, pp. T1A-T1A). IEEE.
- Tóth, I. M., & Csiszárík-Kocsir, Á. (2023a). Examining the competences needed for an agile approach in different generations. In *2023 IEEE 17th International Symposium on Applied Computational Intelligence and Informatics (SACI)* (pp. 317-320). IEEE.
- Tóth, I. M., & Csiszárík-Kocsir, Á. (2023b). Exploring the identification with agile values in different generations. In *2023 IEEE 21st Jubilee International Symposium on Intelligent Systems and Informatics (SISY)* (pp. 217-222). IEEE.
- Troth, A. C., Lawrence, S. A., & Jordan, P. J. (2012). Emotional intelligence, communication competence, and student perceptions of team social cohesion. *Journal of Psychoeducational Assessment*, 30(4), 414–424.
- Varga, J. (2023). The potential benefits of innovation as seen by some domestic businesses. In *2023 IEEE 21st Jubilee International Symposium on Intelligent Systems and Informatics (SISY)* (pp. 223-228). IEEE.
- Wang, Y. (2015). Analysis and enlightenment of agitation-related cases in nursing team storming. *Chinese Journal of Modern Nursing*, 21(24), 2946–2949.
- Wilhelmus, K. Y. (2019). Tuckman and Tom Edison model of team developments applied by STKIP Weetebula team for implementation of SPS (Seminar-Practice-School). *Jurnal Edukasi Sumba (JES)*, 3(1), 38–47.
- Zakaria, S. F., Komarudin, N. E., Kamarulzaman, M. H., Belaman, J. A. X., Fakhruddin, S. S., & Rahmat, N. H. (2023). Exploring group work in ESL classroom using Tuckman’s model. *International Journal of Advanced Research in Education and Society*, 5(3), 254-267.
- Zirar, A., Muhammad, N., Upadhyay, A., Kumar, A., & Garza-Reyes, J. A. (2023). Exploring lean team development from the Tuckman’s model perspective. *Production Planning & Control*. 1-22.

---

### Author Information

---

**Adam Meszaros**

Óbuda University, Keleti Károly Faculty of Business and Management, 15-17. Tavaszmező Street, 1084 Budapest, Hungary

Contact e-mail: [meszaros.adam@uni-obuda.hu](mailto:meszaros.adam@uni-obuda.hu)

---

### To cite this article:

Meszaros, A. (2024). Perception and interpretation of team development phases and their changes: Factors influencing team development. *The Eurasia Proceedings of Educational & Social Sciences (EPESS)*, 37, 16-24.