

A PILOT STUDY ON THE EFFECTS OF INVOLVING THE SECONDARY SCHOOL STUDENTS IN JAR (JUNIOR ACHIEVEMENT - ROMANIA) ACTIVITIES ON THEIR ENTREPRENEURIAL INTENTIONS

Florentina Alina Grigorescu (Pîrvu), Cezar Scarlat, & Andrei Nicolae

*Doctoral School of Entrepreneurship, Business Engineering & Management,
National University of Science & Technology POLITEHNICA (Romania)*

Abstract

In an ever-evolving society, education plays a crucial role in preparing students for successful careers. Beyond the content of the mandatory school subjects, students also need additional knowledge and skills to prepare them for the labor market. Entrepreneurship education plays a significant role in developing entrepreneurial intentions among young people. The pilot study presented in this paper analyzes the effects of involving secondary school students in Junior Achievement Romania (JAR) activities. The study focuses on how participation in JAR programs contributes to changes in students' attitudes toward entrepreneurship, the entrepreneurial skills they develop, and their intentions to start a business. The study included four classes of students from two different schools in Bucharest, Romania. A comparison was made between the two student groups, and data were collected through a questionnaire administered to the students. The results show that Junior Achievement Romania (JAR) activities have a positive influence on changing students' attitudes toward entrepreneurship and on developing their entrepreneurial skills. Furthermore, the data indicates that students exposed to JAR activities exhibit higher self-confidence and show greater interest in starting a business. This pilot study serves as a starting point for future research on this topic and provides teachers and other educational stakeholders with useful recommendations regarding the role and importance of promoting entrepreneurship among young people. However, the study also has limitations, including the small number of students involved and the lack of longitudinal data.

Keywords: *Junior Achievement - Romania – JAR, entrepreneurial education, business education.*

1. Introduction

The labor market is in a continuous state of change, leading to the need for lifelong development among employees. Consequently, this generates a new responsibility for education, namely preparing students for a future of continuous development. Another essential aspect is the development of career competencies (Kuijpers, 2025).

Since the entrepreneurial environment is also undergoing multiple changes, teachers must pay close attention to how they adapt the educational process, procedures, and curriculum to ensure that future entrepreneurs achieve the best possible outcomes. In higher education, there is a competitive market that provides incentives to attract aspiring entrepreneurs through relevant programs that contribute to the success of new ventures. Moreover, changes in the entrepreneurial environment have also led to shifting expectations regarding educational programs (Bauman & Lucy, 2021).

The multitude of changes in market conditions and technology has generated new job requirements, prompting recruitment managers to seek candidates who possess a strong set of competencies capable of responding to increasingly complex demands (Bullen et al., 2020). The expansion of mass higher education has intensified competition among graduates in the labor market. Students realize that obtaining a degree is not sufficient to secure employment and are aware that they need added value and distinctive elements in their qualifications to gain a competitive advantage. Extracurricular activities play a fundamental role in this process, enabling students to acquire and demonstrate competencies that may not be visible in their CV due to a lack of professional experience (Roulin & Bangerter, 2013).

2. Literature survey

In higher education institutions, globalization imposes new challenges. Teachers focus primarily on providing an extensive set of competencies required for the new knowledge-based economy. Educational managers must create an effective learning environment that supports sustainable learning and enables students to successfully face emerging challenges. An effective way to prepare students for productive and fulfilling careers in today's economy is through an integrated educational environment that offers students the opportunity to develop their creative potential (Stukalina, 2008).

Entrepreneurial learning in higher education, based on successful entrepreneurial models, contributes to the promotion of education for sustainable development. Several theoretical perspectives, such as human capital, entrepreneurial self-efficacy, and self-determination, support the idea that entrepreneurial education is positively correlated with students' entrepreneurial intentions, providing them with the knowledge and skills needed to motivate the development of their entrepreneurial careers. Exposure to successful entrepreneurial models within entrepreneurship education programs is a key factor in boosting students' confidence in their ability to start a business and in improving their attitudes toward entrepreneurship (Boldureanu et al., 2020).

A study exploring methods and strategies for preparing students to succeed professionally in a changing business society suggests that integrating real-world experiences through internships, developing critical thinking and problem-solving skills, and promoting lifelong learning and personal development are effective ways to prepare students for a successful business career. The study also emphasizes the use of technology and digital tools to enhance students' career prospects in the business sector (Grigorescu, 2024).

Research conducted to evaluate career counseling needs among 3,562 junior high students in southern Alberta analyzed the relevance of career planning, the people students would turn to for career guidance, and the type of support they desired in the planning process. The results indicate that career planning is important for junior high students, who primarily rely on parents and friends when making decisions about their future careers. Regarding the support they desire, students emphasized access to relevant information and assistance in choosing appropriate courses (Bardick et al., 2004). Overall, there is a consensus that students' attitudes toward entrepreneurs, entrepreneurial activity, and its social role are determining factors for those pursuing an entrepreneurial career. A study comparing students' attitudes toward entrepreneurship and business formation in Catalonia and Puerto Rico, with samples of 837 and 435 students respectively, found that students generally have a positive view of entrepreneurship. Both groups showed favorable perceptions of the desire to start a business, even if feasibility perceptions were not as positive, and a small percentage expressed intentions to start a new company (Veciana et al., 2005).

A survey titled "Perceptions of Entrepreneurship among Future Creative Professionals," conducted with 475 students from Estonia, Latvia, and Finland, analyzed the attractiveness of entrepreneurship and students' opinions regarding motivational factors and barriers they anticipate in pursuing an entrepreneurial career. For Estonian students, motivational factors were related to the nature of entrepreneurial work, specifically interesting tasks and responsibilities, and the extensive freedom to manage their own activities and schedules. The main barriers mentioned were financial insecurity in entrepreneurship and the high costs of funding a venture. Differences were also noted between younger and older students: younger students valued interesting entrepreneurial tasks and responsibilities more, while older students emphasized freedom and independence. The authors concluded that a flexible and differentiated learning design, adapted to students' needs, is essential. Another conclusion was that most students exhibited a low entrepreneurial attitude, with very few having experience in starting or managing entrepreneurial activities, developing projects, or founding civic organizations (Kaseorg & Raudsaar, 2013).

An organization in Romania that is actively involved in developing entrepreneurial education among young people is Junior Achievement. This is the largest international organization focused on economic and entrepreneurial education, with programs in 40 countries across Europe and over 100 worldwide. In Romania, more than 307,000 young people from over 1,900 pre-university and higher education institutions take part annually in JA's applied learning and project-based programs, projects and competitions developed in partnership with the Ministry of Education and Research, educational institutions and JA supporters in Romania.

3. Methodological approach

The present research is a pilot, exploratory, and comparative study, conducted with the aim of analyzing the effects of involving eighth-grade students in activities carried out through the Junior Achievement Romania (JAR) program on their entrepreneurial intentions, attitudes toward entrepreneurship, and perceptions regarding the development of career-relevant competencies.

The research methodology is quantitative, using a questionnaire consisting of 9 questions. The first seven questions were single- or multiple-choice and focused on students' experience in entrepreneurship, the professional fields they consider for a future career, the qualities and skills they deem necessary for an entrepreneurial career, their level of awareness regarding JAR, and their perception of how these activities contribute to the development of entrepreneurial competencies and other skills relevant to future careers, as well as their intentions to start a business in the future. Additionally, the questionnaire included two open-ended questions aimed at identifying the school subjects students consider useful for their future careers and the school counseling services they consider relevant for career guidance.

The questionnaire was administered in paper format to students from four classes across two schools in Bucharest, Romania, with a total of 70 participants. Data were collected in February 2026 and analyzed using descriptive statistics (frequencies and percentages), comparisons between student groups (JAR participants and non-participants), while responses to the open-ended questions were analyzed thematically, identifying recurring categories regarding subjects perceived as relevant for careers and counseling services considered useful. The study employed a comparative approach between students involved in JAR activities and those who did not participate. The purpose of the comparison was to identify differences in students' experience and intentions regarding entrepreneurship, their perception of JAR's contribution to developing entrepreneurial competencies, and their career orientation within the school context.

4. Findings

For the analysis of the data and the extraction of conclusions regarding the effects of students' involvement in entrepreneurial activities, the results are presented as follows: Group 1 consisted of 33 students who participated in activities organized through the Junior Achievement Romania (JAR) program, while Group 2 included 37 students who did not participate in this program.

First, to analyze students' experience with entrepreneurial activities, they were asked whether they had any experience they considered "*entrepreneurial*". Analysis of responses from both groups showed no major differences. In both groups, there were students who reported not participating in such activities and others who had participated in one or more activities. Regarding examples of entrepreneurial activities, most students in both groups mentioned activities involving product sales. The second most common activities were creating a game, application, or website, followed by involvement in a family business. Some students from both groups also mentioned having developed business plans.

To examine students' teamwork abilities and self-confidence, skills essential for entrepreneurship, they were asked what they do when faced with a difficult problem. Four response options were provided, along with the possibility of giving an open-ended answer. Most students in Group 1 (16) chose "*I look for additional information and useful resources*", while most students in Group 2 (18) chose "*I try to solve it myself until I find a solution*". This indicates that students in Group 1 show higher self-confidence while also recognizing the need for additional resources. Another difference was observed in the number of students who chose "*I ask for help immediately*": 3 students in Group 1 compared to 8 in Group 2. Thus, students in Group 1 tend to be more resilient to frustration and persist with challenging tasks.

Table 1. Students' approaches to solving difficult problems.

	Group 1	Group 2
Ask for help immediately	3	8
Look for information/resources	16	6
Communicate with my classmates to come up with a suitable idea	7	4
Try to solve alone	6	18
Another	1 (" <i>try to solve the problem by myself and if I cannot, I will ask for help</i> ")	1 (" <i>look carefully</i> ")

Regarding the careers students envision in 10–15 years, responses varied, but some differences emerged. In Group 1, 12 students chose engineering/programming careers, compared to 5 in Group 2. Conversely, careers in arts/sports were more frequently chosen by Group 2. Students in Group 1 also showed a greater interest in starting a business, mentioning careers in real estate or opening restaurants. For other career options, such as doctor, lawyer, or architect, responses were similar between the groups (13 students in Group 1 and 12 in Group 2).

To assess interest in entrepreneurship, students were asked how much they like the idea of creating something new. None of the students in Group 1 answered “*not at all*”, while 4 students in Group 2 did. Most students in Group 1 indicated they liked the idea “*quite a lot*”, whereas students in Group 2 were more evenly split between “*a little*” and “*quite a lot*”. This suggests that JAR activities positively influence students’ interest in creating new things and their attitude toward entrepreneurship.

Regarding qualities important for an entrepreneur, responses were similar across groups. The top three qualities identified were creativity, intelligence, and risk-taking, while ethics, flexibility, and technical/managerial skills were less frequently selected.

Next, students were asked whether they consider JAR projects and programs to contribute to entrepreneurial skill development. Most students in Group 1 (14) stated that JAR significantly contributes, while 9 indicated a small contribution, 4 said not at all, 2 said essential, and 4 were unsure or did not answer. In Group 2, 12 students did not know or did not answer, likely due to lack of familiarity with JAR. Interestingly, 16 students in Group 2 still rated JAR as “*significant*” or “*essential*”, possibly associating the program name with entrepreneurship.

Students were also asked which school subjects they consider useful for their future careers. In Group 1, most selected science and mathematics, while in Group 2 the most frequently chosen subjects were mathematics and Romanian language. Group 1 also mentioned biology, physics, and English, whereas Group 2 highlighted sports, English, and physics. These responses suggest that students in Group 1 place particular importance on subjects such as science, mathematics, biology, and physics when thinking about their future careers. In contrast, students in Group 2 consider a broader mix of subjects, including both scientific and language-related disciplines, to be useful. This pattern indicates that students in Group 1 may be more inclined toward career paths that rely heavily on technical and scientific knowledge, including entrepreneurship.

Regarding career counseling services, students in Group 1 mentioned psychological counseling, homeroom lessons, and social education, though some indicated they were unsure or did not consider them useful. In contrast, 21 students in Group 2 did not respond, 4 considered multiple services useful, and the remainder indicated none or were unaware of them. Significant differences exist between the groups in terms of access to and awareness of counseling services. Schools and teachers should emphasize student involvement in counseling activities and present available services for career guidance.

Finally, the study noted that students in Group 1 provided more detailed responses and explanations, reflecting higher self-confidence, whereas students in Group 2 were more reserved and sometimes left questions unanswered.

5. Limitations and further steps

Since this study is a pilot study, the sample size is relatively small, so the results cannot be generalized to the entire population of 8th-grade students in Bucharest or Romania. Additionally, the absence of longitudinal measurement does not allow for the assessment of the long-term effects of participation in JAR activities. Nevertheless, the methodology used provides a solid foundation for the development of future, larger-scale research with an extended sample and a longitudinal design.

Building on the preliminary findings of this pilot study, future phases of the research will transition into a comprehensive, longitudinal investigation focused on the relationship between technical and scientific skills, entrepreneurial qualities, and their measurable impact on the success of technology-based ventures. While the current study provides a foundational exploration of JAR activities, upcoming research will expand this analysis to examine how the combination of strong technical training and specific entrepreneurial traits, such as risk tolerance, innovative problem-solving, and adaptability, influences long-term venture performance.

Furthermore, this expanded research will explicitly integrate Entrepreneurial Intentions (EI) as a critical mediator in the development of these competencies, testing the hypothesis that high EI significantly enhances an individual's ability to navigate the complex interpersonal and operational demands inherent in the technology industry. By employing a robust, longitudinal research design that tracks participants over an entire academic cycle and beyond, this project aims to provide empirical evidence on how early exposure to technical, scientific, and entrepreneurial education translates into tangible, long-term professional success within the high-growth technology sector.

6. Discussions and recommendations

Based on the findings of this pilot study, teachers, school leaders, and policymakers are encouraged to promote entrepreneurship education through practical, hands-on activities like those offered by JAR. Teachers should integrate project-based learning, collaborative exercises, and opportunities for

experimentation to develop students' entrepreneurial skills, self-confidence, and problem-solving abilities. School administrators can support these initiatives by offering diverse extracurricular programs, facilitating exchanges of best practices, and creating a school environment that balances learning with student well-being. Policymakers should ensure curricula are student-centered, provide teacher training in innovative teaching methods, and encourage long-term studies to evaluate the impact of entrepreneurial education. These measures collectively can strengthen students' entrepreneurial intentions, prepare them for future careers, and foster a culture of innovation.

7. Conclusions

Thus, the results of the pilot study support the idea that involving students in entrepreneurial activities, such as those carried out through the Junior Achievement Romania (JAR) program, has positive effects on students' attitudes toward entrepreneurship and on the development of skills relevant for pursuing a career in this field. The findings from the pilot study indicate that students who participated in JAR activities show a higher interest in starting a business (mentioning aspirations to open a restaurant or work in real estate) as well as a stronger orientation toward technical careers, such as engineering and programming. Moreover, the fact that these students reported seeking additional information and resources before asking for help in difficult situations suggests a higher level of autonomy, self-confidence, and perseverance compared to students who did not participate in the program. Additionally, students in the first group, who participated in JAR activities, consider subjects like mathematics and computer science more relevant for their future careers, highlighting a potential correlation between entrepreneurial education and the appreciation of STEM competencies.

In conclusion, participation in JAR activities contributes to strengthening entrepreneurial intentions, developing transversal skills, and improving career guidance. However, the pilot nature of this research and the small sample size underscore the need for future longitudinal studies with larger samples to validate and deepen these results.

References

- Bardick, A. D., Bernes, K. B., Magnusson, K. C., & Witko, K. D. (2004). Junior high career planning: What students want. *Canadian Journal of Counselling and Psychotherapy*, 38(2).
- Bauman, A., & Lucy, C. (2021). Enhancing entrepreneurial education: Developing competencies for success. *The International Journal of Management Education*, 19(1), 100293.
- Boldureanu, G., Ionescu, A. M., Bercu, A.-M., Bedrule-Grigoruță, M. V., & Boldureanu, D. (2020). Entrepreneurship Education through Successful Entrepreneurial Models in Higher Education Institutions. *Sustainability*, 12(3), 1267. <https://doi.org/10.3390/su12031267>
- Bullen, M. L., Kordecki, G. S., & Capener, E. D. (2020). Preparing career-ready graduates: Expectations for academy to enhance student success and assist business employers. *SAM Advanced Management Journal*, 85(2), 4-12.
- Grigorescu, F.A. (2024). Preparing Students for Successful Business Careers in a Changing Society: Good Practices from a Private High School in Romania. In M. Busu (Ed.) *Rethinking Business for Sustainable Leadership in a VUCA World. ICBE 2023*. Springer Proceedings in Business and Economics. Springer, Cham. https://doi.org/10.1007/978-3-031-50208-8_11
- Kaseorg, M., & Raudsaar, M. (2013). Students' attitudes toward entrepreneurship. *International Journal of Business and Management Studies*, 2(2), 31-43.
- Kuijpers, M. A. C. T. (2025). Career Competencies, Preparing Students for the Future. *Social Sciences*, 14(5), 291. <https://doi.org/10.3390/socsci14050291>
- Roulin, N., & Bangerter, A. (2013). Students' use of extra-curricular activities for positional advantage in competitive job markets. *Journal of Education and Work*, 26(1), 21-47. <https://doi.org/10.1080/13639080.2011.623122>
- Stukalina, Y. (2008). How to prepare students for productive and satisfying careers in the knowledge-based economy: Creating a more efficient educational environment. *Ukio Technologinis Ir Ekonominis Vystymas*, 14(2), 197-207. <https://doi.org/10.3846/1392-8619.2008.14.197-207>
- Veciana, J. M., Aponte, M. & Urbano, D. (2005). University Students' Attitudes Towards Entrepreneurship: A Two Countries Comparison. *Entrepreneurship Mgt.* 1, 165-182. <https://doi.org/10.1007/s11365-005-1127-5>