

Exploring Peer Effect in Educational Choices: The Missing Tie

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Abstract Many disciplines and theoretical approaches have addressed the peer effect on educational choices. This article offers a review and critical reading of the scientific literature to identify the main research groups and domains that have analyzed the influence of peers on educational decisions. To this end, the bibliometric approach has been used throughout a specific query, later refined to include only articles belonging to relevant scholarly categories such as sociology, social psychology, and education. Early findings show that the Groningen University research group is a key reference in the study of peer effects in education and social network analysis. Scientific publications on these topics are growing steadily, with a significant acceleration after 2004. The co-occurrence analysis of keywords, instead, reveals thematic clusters—social dynamics, education, healthcare, policy, human capital, and network methods—highlighting the need for an interdisciplinary approach to understand peer effects and their implications.

Keywords: peer effect, social influence, university choices, social support

1. Introduction

This paper aims to conduct a literature review, analyzing the main studies and contributions concerning the peer effect on educational choices. We want to identify key aspects by exploring different theoretical and methodological perspectives. The literature on this topic consists of several intertwining strands. Educational decisions can have long-term effects on the course of life, significantly determining both future income and social status [1]. An initial reading of the phenomenon has shown that the study of the peer effect, as a part of relational capital in educational contexts, overlaps with the analysis of educational transitions, i.e., the study of those critical moments when students make decisions that determine their future. Furthermore, it emerges that research on the peer effect intersects with the forms of support students receive and the cultural capital proper to their context of origin and belonging. This is because cultural capital is an essential factor that directly and significantly influences educational processes through informative dynamics generated by different social circles [2]. The social order reproduces itself continuously and, in this process, the norms that regulate the contexts play a fundamental role [3]; acting, directly or indirectly, both on the dynamics of reproduction, and on the resulting effects. In the study of peer effect on educational choices, macro and micro-sociological aspects intersect, leading to studies that must necessarily take into account variables belonging to the different dimensions. An in-depth bibliometric analysis is conducted to analyze the development of the study of this phenomenon. Relevant keywords were used to identify key studies, with a temporal filter restricting publications to 1966–2024 for quality and reliability. This time interval was chosen to include both early research on peer influence processes and more recent studies reflecting methodological and theoretical developments in the field. The research scope was refined using disciplinary filters, focusing on Sociology, Economics, Psychology, Decision Sciences,

and Mathematics. This ensured relevance while maintaining an interdisciplinary approach to capturing diverse perspectives on the phenomenon. In Section 2, the theoretical framework that helps defining peer effect in the educational context and the related processes of influence is addressed. In Section 3, the bibliometric methodology is briefly described. Section 4 shows the main results and some conclusions emerging from the study.

2. Theoretical framework

The term *peer* refers to individuals of similar age who share life experiences and spend a lot of time together, as they belong to the same generation [4][5]. Regarding peers, it emerges that membership and reference groups influence individual behaviors. Within these groups, narrower subgroups can form, referred to as subcultures. For example, students who interact more frequently with each other within a school classroom tend to create subcultures [6], which are small groups characterized by closer ties and more intense interactions. The peer group has been shown to exert a significant influence on educational choices [7]. This highlights the importance of examining how individuals initiate social interactions when studying peer influence. Other strands of literature, however, take a broader perspective, considering all students belonging to the same school or group as peers. In this view, influences arise not only from interpersonal relationships, but also from shared educational norms and the formation of points of reference and comparison.

There are two main processes underlying the peer effect: *peer selection*, which leads individuals to form connections with those they perceive as similar, and *peer socialization*, which facilitates the internalization of group norms and attitudes [6]. During adolescence, these processes play a crucial role in shaping individual perceptions, preferences, and future prospects [7]. Of all kinds of influence discussed in the literature, there are two related to peer effects in educational contexts that seem to be important for the analysis of the phenomenon: the first one concerns the behavior and attitudes of close friends, where affective ties increase the potential for influence in school contexts. The second one concerns peers' academic success and family social capital, which are closely linked to the school environment and the value placed on educational attainment [8][9]. Other studies, however, examine peer relationships by focusing on the interaction between the internal and the external environment in career-related decision-making processes, including educational choices that will influence future career decisions. Several scholars have highlighted how people who invest time and energy in exploring their identity, aptitudes, aspirations and abilities, as well as carefully observing the social, cultural and economic context in which they are embedded, are more likely to make more thoughtful life choices. This introspective and environmental analysis clarifies available options and challenges, supporting more informed and fulfilling decisions. Family provides key support for decision-making in late adolescence, while social interactions shape skills, self-esteem, and determination for meaningful life choices. Such relationships also foster the adoption of values essential to personal and professional development [10].

3. Methodology

The bibliometric analysis allows us to highlight different features of the scientific production. Firstly, we focus on publications trend by country, and on the number of articles published over the years, showing a significant increase in academic attention to the study of peer effects in education, with particularly marked growth from 2004 to the 2024. Especially, the countries most involved are USA, The Netherlands and China. The analysis was deepened through several advanced bibliometric techniques, including keywords co-occurrence analysis, Multiple Correspondence Analysis, and the study of co-citation networks [11] [12]. Such techniques allow i) to identify the major research trends, ii) to highlights the relationships between different concepts and their positioning within a continuum in the scientific landscape and, iii) to highlight the authors' reputation provided by the richness of citations. The co-occurrence network analyzes the frequency with which keywords appear together in any pair of documents. Similarly, the co-citation network examines the frequency with which authors are cited together in the same papers, producing the evidence of the scholarly communication pattern. In network science, a network is a collection of interconnected entities or nodes that share one or more relationships with each other. Many tools and techniques are available for network analysis, including graph theory, centrality measures, and network visualization methods. These tools allow researchers to identify patterns and trends in the data and understand the structure of the nodes and their role within the network. For an in-depth discussion on how to visualize bibliometric networks see van Eck and Waltman, 2014 [13].

4. Results and Conclusion

Looking at Fig.1, the analysis highlights the central role of the research group of the University of Groningen in the study of peer effects in education and in the analysis of social networks, distinguished by the influence and relevance of its academic scholars.

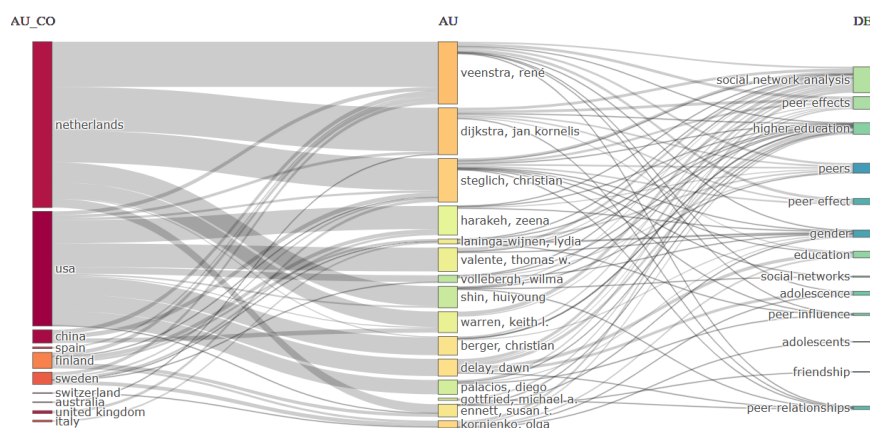


Figure 1: Three Field Plot: country, authors and keywords

The analysis of keywords co-occurrence network reveals the presence of distinct thematic

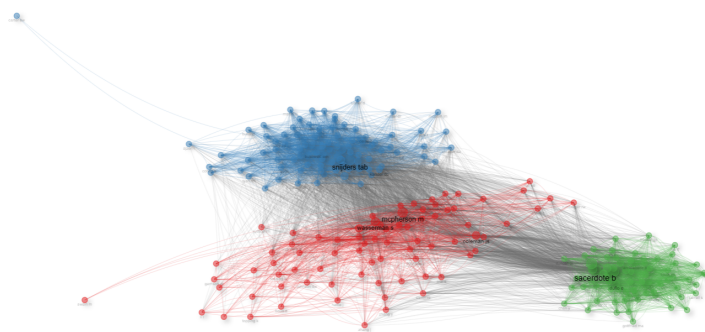


Figure 4: Co-citation Network

B., who is known for his research in Econometrics, with a focus on the influence of social networks on economic and educational outcomes.

In conclusion, the bibliometric analysis provides a comprehensive overview of the current landscape of scientific production on peer effects in education, unveiling key contributions, trends, and interconnections across various research fields. The interplay between social dynamics and educational decisions emerges as a pivotal element in the exploration of peer effects, underscoring the importance of further interdisciplinary studies to deepen our understanding of the phenomenon. Overall, this analysis highlights the expanding scope of research on social networks and peer influences, demonstrating its profound impact across disciplines such as sociology, economics, education, and public health. The growing emphasis on these topics calls for an integrated approach to more fully grasp the complexities of social dynamics and their influence on both individual and collective choices.

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References

- [1] Breen R. and Jonsson J. O. Inequality of Opportunity in Comparative Perspective: Recent Research on Educational Attainment and Social Mobility. *Annual Review of Sociology*, 31:223–243, 2005.
- [2] Smith E. Peer Preferences and Educational Decisions: Heterogeneous Associations Across Student Socioeconomic Status. *British Journal of Sociology of Education*, 44:374–393, 2023.
- [3] Giancola O. and Salmieri L. *Disuguaglianze educative e scelte scolastiche. Teorie, processi e contesti*. Franco Angeli, 2024. isbn: 9788835160311.
- [4] Osterman K.F. Students’ Need for Belonging in the School Community. *Review of Educational Research*, 70:323–367, 2000.
- [5] Brechwald W. A. and Prinstein M. J. Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, 21:166–179, 2011.
- [6] Raabe I. J and Wölfer R. What Is Going on Around You: Peer Milieus and Educational Aspirations. *European Sociological Review*, 35:1–14, 2018.
- [7] Andersen S. and Hjortskov M. The unnoticed influence of peers on educational preferences. *Behavioural Public Policy*, 6:1–24, 2019.
- [8] Palardy G. J. High School Socioeconomic Segregation and Student Attainment. *American Educational Research Journal*, 50:714–754, 2013.
- [9] Palardy G. J. “The Impact of Socioeconomic Segregation in U.S. High Schools on Achievement, Behavior, and Attainment and the Mediating Effects of Peers and School Practices”. In. *International Perspectives in Educational Effectiveness Research*. Ed. by J. Hall and P. Lindorff A. and Sammons. Cham: Springer International Publishing, 2020, 287–325. isbn: 978-3-030-44810-3.
- [10] Felsman D. E. and Blustein D. L. The Role of Peer Relatedness in Late Adolescent Career Development. *Journal of Vocational Behavior*, 54:279–295, 1999.
- [11] White H. D. and Griffith B. C. Author cocitation: A literature measure of intellectual structure. *JASIS*, 32:163–171, 1981.
- [12] Radhakrishnan S., Erbis S., Isaacs J. A., and Kamarthi S. Novel keyword co-occurrence network-based methods to foster systematic reviews of scientific literature. *PLoS ONE*, 12:2017.
- [13] van Eck N. J. and Waltman L. “Visualizing Bibliometric Networks”. In. *Measuring Scholarly Impact: Methods and Practice*. Ed. by Ying Ding, Ronald Rousseau, and Dietmar Wolfram. Cham: Springer International Publishing, 2014, 285–320. isbn: 978-3-319-10377-8.