

**NETWORK ANALYSIS OF SCIENTIFIC COLLABORATION (BASED ON CO-AUTHORSHIPS) AT THE DOCTORAL SCHOOLS OF EDUCATIONAL STUDIES IN HUNGARY**

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There is a basic step for becoming an educational researcher: a successful graduation from a Doctoral School. As one of these schools' credo said: 'The Doctoral School of Educational Sciences considers its main objective to train new generations of researchers for educational sciences'. In contrast, Kamler (2008) argues that 'while doctoral research is a major source of new knowledge production in universities, most doctoral students do not receive adequate mentoring or [...] support to publish from their research'. Heath (2010) found that doctoral candidates in science got more support, published more papers, and included their supervisor as co-author more often than did graduates in the social sciences. The purpose of the present study is to examine the relationship of doctoral candidates and their thesis advisors/professors through the analysis of co-authorship data. Co-authorship of a paper/study/book can be interpreted as documenting a collaboration between two or more authors, and these common works form a so-called 'co-authorship network'. According to some recent studies (Fehér, 2014; Fehér & Aknai 2016), the performance of doctoral students/candidates, as measured by the number of publications and their quality, is quite heterogeneous. Our hypothesis is that this performance is correlated with a) scientific collaboration with their thesis advisor b) candidates' earlier scientific background. We analysed the data of four Hungarian Doctoral Schools of Education (ELTE, SZTE, PTE and DE) from *doktori.hu* and *mtmt.hu*. The sample consisted of about 30 professors or leading researchers/thesis advisors of Doctoral Schools and their doctoral candidates since 2006. Data were collected in January 2017. We used SNA (Social Network Analysis) for the exploratory research of connections between actors (with R and Gephi). Results revealed strong differences between the collaboration of thesis advisors and candidates (ranging from 0 co-authorship to more than 50 common articles) in different Doctoral Schools. The average degree of connections between professors and candidates are very different among schools. Co-authorship involving professors of various schools is quite rare, and this also encumbers the collaboration of candidates. Further research is necessary for a qualitative analysis of the attitudes and expectations of doctoral candidates, and the attitudes of professors as well. The key of the success is to find the best motivation and inspiration for their common work, which leads to higher outcomes at the end of doctoral studies. We are going to present and interpret detailed findings in our presentation.