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Standing on the shoulders of giants



Tehmina Amjad^{a,b}, Ying Ding^{b,f,h}, Jian Xu^c, Chenwei Zhang^b, Ali Daud^{a,g},
Jie Tang^d, Min Song^{e,*}

^a Department of Computer Science and Software Engineering, Islamabad, 44000, Pakistan

^b School of Library and Information Science, Indiana University, Bloomington, 47405, USA

^c School of Information Management, Sun Yat-sen University, Guangzhou, 510275, China

^d Department of Computer Science and Technology, Tsinghua University, Beijing, 100084, China,

^e Department of Library and Information Science, Yonsei University, Seoul, 120-140, South Korea

^f School of Information Management, Wuhan University, Wuhan, China

^g Faculty of Computing and Information Technology, King Abdulaziz University, Jeddah, Saudi Arabia

^h Library, Tongji University, China

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ABSTRACT

Young scholars in academia often seek to work in collaboration with top researchers in their field in pursuit of a successful career. While success in academia can be defined differently, everyone agrees that training with a well-known researcher can help lead to an efficacious career. This study aims to investigate whether collaborating with established scientists does, in fact, improve junior scholars' chances of success. If not, what makes young scientists soar in their academic careers? We investigate this question by analyzing the effect of collaboration with a known-star on success of a young scholar. The results suggest that working with leading experts can lead to a successful career, but that it is not the only way. Researchers who were not fortunate enough to start their career with an elite researcher could still succeed through hard work and passion. These findings emerged from analyses of two discrete sets of well-known scholars on the career of newcomers, suggesting their strength and validity.

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1. Introduction

Success is not the same for everybody. Individuals must delineate what success means to them and to define one's own values, powers, abilities, aspirations, goals, and enticements. For successful career in academia, young scholars want to study at world's top universities. It is generally believed that studying with the outstanding professors at Ivy League universities will guarantee a successful start, which naturally leads to a successful career. In other words, young scholars can benefit from standing on the shoulders of giants who can elevate them to soaring career heights.

Adegbola (2013) defines "Newton's premise of standing on the shoulders of giants" as the process where a scholar makes a quantum jump in their career by collaborating with prominent experts in the healthcare domain. Adegbola's notion of scholarly tailgating embraces both horizontal and vertical relationships among scholars. Because these relationships are often mutual and developmental, participating scholars in the collaborative network can use them to propel their careers (Quatman & Chelladurai, 2008). Collaborating with international researchers allows scholars to actuate their scholastic

* Corresponding author.

E-mail address: min.song@yonsei.ac.kr (M. Song).

activities (Kram & Isabella, 1985; Sweitzer, 2009). This, in turn, enables them to benefit from the knowledge and experience of respected scholars in a domain. Those beneficiaries become rising stars by standing on the shoulders of giants, which forcefully moves them from inertia to dynamic and explosive scholarly heights (Adegbola, 2010).

2. Related work

A review of the literature reveals that research collaborations significantly impact academic success. Relationships and collaborations are an equivalently rightful constituent of doctoral education and are key to a professional academic career. Baker and Pifer (2011) provided a theoretical framework for studying the connection between collaborations and learning. The framework focuses on socio-cultural impact of learning and developmental networks. Early in their careers, young researchers undergo a period of intense learning and personal development that is greatly influenced by their professional relationships (Baker & Pifer, 2011). Early relationships include those with advisors, other faculty, and peers. Such collaborations influence the career development process during the phase of transition from a doctoral student to an independent researcher. Students who are able to build new contacts have the opportunity to work on new projects and coauthor more papers. Highly productive researchers not only have more connections themselves, but also connect with a larger network (Ebadi & Schiffauerova, 2015). Using multiple regression models, Ebadi and Schiffauerova (2015) established that previous achievements and acquired funding plays an important role in establishing and enhancing a scholar's position in a co-authorship network. Young researchers who possess intermediate positions within a collaboration network tend to get connected with scholars from different communities (Ebadi & Schiffauerova, 2015). Weidman, Twale, and Stein (2001) showed that the connections of researchers from within and outside of the academic community are indispensable for resoluteness and professional success.

Researchers have used quantitative measures, such as numbers of publications and citations, to assess the accomplishments and standing of researchers. Collaboration with respected senior researchers can determine young scholars' position within a network. Number of citations is highly influenced by the centrality of scientists in a network and is indicative of the visibility of their work in future (Sarigöl, Pfitzner, Scholtes, Garas, & Schweitzer, 2014). The work of scholars is influenced by their collaborators, more so if the collaborators are senior Amjad, Daud, Akram, & Muhammed, 2016; Amjad, Daud, Che, & Akram, 2015; Li, Foo, Tew, & Ng, 2009). The quantitative methods that were developed with the standard PageRank algorithm (Page, Brin, Motwani, & Winograd, 1999) used different weighting functions by incorporating various factors such as the number of publications, impact of journals in which they are published, the researchers' h-index, and the influence of collaborators into the weighting function. Furthermore, the amount of funding received and prestige of the PhD supervisor play a significant role in predicting the future impact of a young researcher (Acuna, Allesina, & Kording, 2012). The teamwork is not anymore restricted among the humans but, the collaboration of machines and humans can bring forward innovative experiences for assembling and reviewing related research work and receive alerts on their activities and interactions (Ding & Stirling, 2016).

The dynamics of high-impact scientific work can predict the success of a researcher early in their career, considering some open challenges (Li & Tong, 2015). These include research topic, rank of venue, and co-author's rank. Success in academia is predictable and can be quantified using several features, such as the number of published papers, the journal's impact factor, number of highly cited papers, the gender of researcher, and ranking of the institute (van Dijk, Manor, & Carey, 2014). Extrication of quality from quantity of scientific output is essential for the academic tasks such as hiring and promotion, and funding decisions mostly depend on a range of influence measures that are biased by factors such as specialty and academic age (Kaur, Ferrara, Menczer, Flammini, & Radicchi, 2015). The analysis and study of patterns of the progress of young researchers can give a clue about the rising stars, who have potential to flourish very quickly (Daud, Abbasi, & Muhammad, 2013; Daud, Ahmad, Malik, & Che, 2015; Li et al., 2009). Dong, Johnson, & Chawla (2015) argued that the researcher's authorization on topic of publication and its venue of publication are crucial factors that can increase the h-index of primary author. Estimation of potentially influential literature is also of great importance for choosing important research references. It is beneficial to spot influential literature to craft improved utilization of "giant shoulders" as compared to a traditional way to referencing papers (Yan et al., 2012).

From the review of related literature, it was revealed that researchers have studied the impact of collaboration, positioning of a scholar within a scholarly network and their influence of their collaborators. Several quantitative measures have also been studied to find the impact of an author on collaboration as well as to predict the impact of authors on future collaboration (Acuna et al., 2012; Daud et al., 2015; Dong, Johnson, & Chawla, 2016; Sarigöl et al., 2014; Sayyadi & Getoor, 2009). Our methodology is different from the existing methods, since we do not apply the quantitative measures or algorithms to calculate or predict scholarly impact, rather we analyze the relationship between academic success of young scholars and their collaboration with a well-known researcher. The goal of the present study is to investigate, whether standing on the shoulders of giants leads to success for junior scholars. If not, what makes young scholars soar in their academic careers? We study the correlation between success and co-authorship with a well-known researcher of a field. We are to verify the general assumption that prevails in societies that standing on the shoulders of a giant can lead to success.

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