



Positive Prospect in Non-Academic Careers

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(Received 21 Dec 2019; accepted 15 Jan 2020)

Dear Editor-in-Chief

PhD student researchers and postdocs should consider non-academic careers as well as academics when looking for a future job (1).

To show that leaving academia and then taking a non-academic job is not a 'failure' but can be another success, we have analysed data of Nobel prizewinners (892 individuals), showing the most coveted success in individual career, between 1901 and 2017 (https://www.nobelprize.org/nobel_prizes/lists/all/index.html). Two categories (Peace and Literature) were not included in our analysis because most prizewinners in two categories did not belong to academics or their affiliations were not much described.

According to our analysis, the percentage of non-academic jobs at the time of winning the Nobel Prize was 27%. Nearly one-third of Nobel prizewinners went on to non-academic careers. The percentage is never small and almost consistent with the result (nearly 30% of science doctoral degree holders' job titles are in non-academic careers) of the 10,000 PhDs Project (<http://www.sgs.utoronto.ca/about/Pages/10,000-PhDs-Project.aspx>) in Canada, which confirm that researchers who leave academia are not failed academics.

The bio-industrial (non-academic) positions attract many researchers who recently received their PhDs (2). More than 50% of researchers who responded to Nature's 2017 Graduate Student Survey (2) wanted to work in industry and almost a quarter wanted industrial positions the most.

Researchers wanting these industrial positions need to bring their lists of publications, posters and presentations to the back of the CV document (3). In addition, they have to concentrate on the ability to carry out the position requirements and on the teamwork skills, not on lists of publications, posters and presentations (3). They need to shift from promoting their publications, awards and citations to emphasizing the value they bring to a team effort. Furthermore, they should identify their vocational strengths and talents, such as communication and management skills that transcend bench-top prowess and technical proficiency (3).

Many PhD students concentrate on writing their theses and eventually finishing their PhDs with no clear plans after graduation (4). Today, many PhD-holders believe that their only obvious next step is to make years of postdoctoral researches at very low. In the face of this challenge, PhD



candidates should focus on finding ways to diversify their experiences (4). This is an important step in securing unconventional employment opportunities and making them more attractive to employers outside government and academia (4).

In addition, it is more important to find the job most relevant to their interests and preferences, regardless of academic career or not. The reason is that it is more necessary for individual success (or hot streak in artistic, cultural and scientific careers) to do something interesting than to do well without preferences (5).

Acknowledgements

This work was supported by research grants from the Bio & Medical Technology Development Program of the National Research Foundation of Korea (NRF) funded by the Ministry of Science and ICT (MSIT; number NRF-2017M3A9E4078014); and the NRF funded by the MSIT (numbers NRF-2021R1A2C3004826 and NRF-2019R1C1C1008615). The funders had no influence on the design, collection, analysis and interpretation of the data, writing of the report and decision to submit this article for publi-

cation. Jung Hun Lee, Tae Yeong Kim, and Sumera Kausar Malik contributed equally to this work.

Conflicts of interest

The authors declare that there is no conflict of interest.

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