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Abstracts

Sharon Bar-Ziv, Orit Fischman-Afori & Miriam Marcowitz-Bitton, An Empirical Study of the Gender Gap in Academic Patenting in Israel

The gender gap in academia has long been the focus of public discourse regarding the role academic institution play in promoting social values. Integrating women into senior academic positions, especially in the science, technology, engineering and mathematics (STEM) fields, is essential to promoting women's advancement in society in general and has significant implications for female entrepreneurial and innovative potential.

In this study, we seek to assess the gender gap in the Israeli academy by examining the nature and extent of women's participation in transferring knowledge from the academy to industry. One of the predominant models for such knowledge transfers is based on the registration of patents for inventions developed by academic institutions in the course of their activities. Academic patenting is thus a significant component of the professional activities of faculty members worldwide. However, to date, female academic patenting has received little attention.

The Israeli academy provides an excellent opportunity to study female academic patenting for two reasons. First, a world leader in scientific research, Israel has been transferring technology since the early 1960s. Second, because it is a small country, it is possible to conduct a comprehensive study, examining all patent applications filed by academic institutions since Israel was established in 1948. In this study, we compared the extent to which women and men are involved in patent filings by Israeli academic institutions. After a comparative quantitative analysis of the inventors' names on the patent applications, we determined the inventors' gender while controlling for various other patent-application characteristics, such as patent registration success rates, fields of research, forward citations, and more.

Our study yielded several key findings. We found that women file far fewer patent applications than men. Our database included 6,825 patent families, of which 320 applications were filed by women inventors only, 3,607 applications were filed by men only, and 2,898 applications were filed by mixed inventor groups. These data alone demonstrate a gender disparity in patenting activity in the Israeli academy, as a thorough examination of the gender composition of mixed-group patent applications shows that women are outnumbered by men. The study also found that women are

significantly less involved in academic patenting than are men, considering women's representation in STEM faculties in Israel. We found that while the share of patent applications filed by men exceeded their share of academic positions, the share of patent applications filed by women was much lower than their share of academic positions. For example, in 2017 and 2018,+ women's rate of patenting as about 35% lower than that of men. Nevertheless, our analysis reveals that applications naming male, female, and mixed-group inventors have comparable acceptance rates, and that there is no meaningful gender-based distinction when it comes to the invention's scientific field or forward citations.

The importance of this study is that it reveals that even when it appears that women are successfully engaged in academic activity – they have been appointed to the senior faculty in STEM fields, for example – there is a significant difference in the types of activities that women and men pursue. Moreover, our results suggest that women have not achieved their full potential for invention and knowledge transfer in the STEM fields, resulting in potential economic and social losses to society.

Our findings can serve as a springboard for further in-depth research on various aspects of women's integration into academia to identify failures to achieve gender equality that may be masked by women's increasing representation on various faculties. As the results of our study make clear, equality in academia is not merely a question of how many women are academic faculty members, but also of whether female faculty can and do participate in their institution's patenting and other important research activities at rates similar to those of their male colleagues.

Lina Portnoy & Daphne Raban, *Lifelong Learning Among Israeli High-Tech Employees*

The rapid pace of change in our daily lives renders the ability to acquire new skills and accept new ideas a prerequisite for a successful career. Lifelong learning is a concept that refers to the ongoing commitment to acquire skills and knowledge through learning how to learn and love of learning. This study examines university-industry transition patterns to determine the role higher education plays in the lifelong learning of Israeli high-tech employees. Our analysis of 1,448 LinkedIn profiles of Israeli high-tech employees revealed patterns in the number and timing of transitions between university and industry. The study found that multiple university-industry transitions were associated with higher career achievements while the timing of academic degree acquisition relatively to job market entrance was found to be not significant. The study also observed the phenomenon of acquiring two degrees of the same level in different

fields at different times. Based on those findings, the authors recommend that higher education institutions accommodate academic degrees that allow personalized curriculum to a certain extent. We also recommend that regulatory bodies develop policies that encourage employers to make it possible for employees to pursue a degree while working.

Itamar Gati & Tirza Willner, Integration of Young Adults into Higher Education: Challenges Due to COVID-19

Transitions are always challenging. One of the primary challenges facing about half of all Israeli young adults is successful integration into higher education. In recent years, many young adults have taken a path that begins with finding a job after their military or national service to save enough money to pay for a lengthy backpacking trip and, often, for their academic studies upon return. Previous studies have mapped the hurdles in the "classic" track, including choosing one's higher education institution and study major(s), successfully adapting to higher education, and, after finishing their academic studies, transitioning to appropriate employment. The COVID-19 pandemic disrupted this track for many young adults. The present study examines the effects of the COVID-19 pandemic and the accompanying employment and tourism crises on young adults' perceptions regarding higher education, their reasons for continuing their education ("Why study?"), their psycho-social readiness to do so ("What personal resources do you have that will help you persevere and succeed?"), and how they perceive work ("What purpose do you ascribe to work?").

To determine whether the COVID-19 pandemic influenced students' answers to those three questions, we used two sets of data. One was collected in October 2019 (before the pandemic) from 2,434 first-year students in the 2019 cohort who responded to three questionnaires addressing various aspects of higher education. The second was collected in October 2020 from 2,376 first-year virtual-learning students in the 2020 cohort. The students' responses on those questionnaires showed that the two cohorts had similar degrees of readiness to undertake their higher education studies and assigned similar purposes to work. With respect to what they sought to gain from higher education, however, a few interesting differences emerged. Whereas the importance ascribed to knowledge decreased slightly and prestige became substantially less important, the social aspect of attending university or college became slightly more important between 2019 and 2020. These findings reflect the challenges involved in transitioning from military or national service to higher education and successfully adapting in the first year, as well as the effects of the pandemic on the reasons for attending university or college.

Shlomo Getz, How Place of Residence Affects Undergraduate Students' Educational Choices

This study examines how the place of residence affects undergraduates' educational choices (type of institution and field of study). The broader research question was, "To what extent is the educational choice influenced by the socio-economic status and academic achievement of the individual and to what extent is it influenced by the characteristics of the place of residence?" The data were taken from the 2019 and 2020 CBS data concerning all first-year students in all academic institutions. The place of residence influences choices that do not depend on the socioeconomic status of the student's family. For example, the choice of institution is more closely related to the geographical location of the place of residence, whereas the choice of field of study is more closely related to the socioeconomic cluster of the place of residence. The characteristics of the place of residence influence students with low academic achievement more than they do highly successful students. That influence does not depend on the individual's socioeconomic status. The characteristics of the place of residence create a "sense of place" and a social differentiation between types of places of residence. This differentiation crosses the boundaries of socioeconomic status. The place of residence is not only a physical place; it is also a social place where the perception of reality, beliefs, and behavior is collectively shaped. The impact of the place of residence on educational choices indicates that it creates a common habitus for the nhabitants of that place.

Tammy Harel Ben Shahar, Ruthy Lowenstein Lazar & Yael Efron, Regulating Legal Clinics in Israel

Some twenty years after they were first established in Israel, legal clinics have become an integral part of an Israeli legal education, operating in every law school in the country. While they embody the aims of higher education as defined by UNESCO (generating knowledge, professional training, service to society, and social critique), legal clinics do not, as yet, enjoy "equal citizenship" in law schools. This article examines regulation processes that have taken place in the past five years concerning the legal clinics and argues that they did not do enough to ensure that legal clinics will thrive an achieve their goals. It then puts forward guidelines for optimal regulation of legal clinics.

Principal Researchers: Ronen Bar-El & Limor Hatsor; Co-researchers: Ronen Barak, Avichai Snir & Yossef Tobol, *Higher Education Policy and the Role of Colleges*

We suggest a theoretical framework to examine the main changes in higher education systems in Israel and around the world, including the increase in the number of students and institutions, the decline in funding per student, and the changes in the human capital stock over time. Our model considers the heterogeneity of institutions and the funding policy of higher education. Within this framework, we analyze individuals' education and the effect of their decisions on the economy. In particular, we focus on the implications of expanding the higher education system, student subsidies' policies and integrating ultra-Orthodox Jews into the student body. We also examine the reasons for diverting funds from universities to colleges and the optimal student subsidy policy based on human-capital considerations. Additionally, we investigate how the enrollment of ultra-Orthodox Jews in higher education institutions has changed, examining their disciplines of study, degrees, and preferred institutions. Our data shows an increase in their enrollment in first degree programs over time, specifically in colleges. Furthermore, they strongly prefer colleges for their first degrees, but a higher percentage of ultra-Orthodox continue their studies and obtain a second degree in universities than they do their first degrees. Only a negligible percentage obtain PhDs.

Erez Cohen & Nitza Davidovitch, *The 2021 Model of Israel's Council for Higher Education: A Retrospective After More Than Six Decades*

For over six decades, Israel's system of higher education has been managed by the Ministry of Education and the Council for Higher Education (CHE). During this period, significant changes have occurred in academic systems throughout the world and in Israel, leaving their mark not only on research and teaching, but also on the related regulatory agencies. This study examines how the CHE has managed changes in the academic system and compares that agency's general considerations, which led it to shape policy while facing the future challenges for educational systems, with those of supervisory agencies around the world. The research consists of a review of the literature addressing the higher education systems in Israel and elsewhere and interviews with senior academics who occupy or have occupied key positions in the CHE. The findings indicate that the CHE has a bureaucratic image and a short-sighted policy, and that, contrary to its stated goal of innovative, accessible processes that meet high standards and benefit the economy and society, it reacts to events rather than leading the way.