

Trends in the Utilization of the Israeli Higher Education System by Generation Z during 2015-2020

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Abstract

This study centers on members of Generation Z, born from the mid-1990s until the end of the first decade of the current century into a world of technology, social networks, and a culture of immediate messages. The study seeks to examine the effect of this generation's pragmatic outlook both in general and in the context of acquiring a higher education, on trends involving registration for undergraduate studies. The Israeli system of higher education was chosen as a case study since the rate of Israelis with a higher education is among the highest in the world. Academic studies are perceived in Israel as a crucial milestone and an inevitable developmental stage in the life course of a lot of young person. Data on the distribution of students among the different disciplines shall be analyzed by correlational examination of changes in these trends in the various degree levels from 2015-2020. The research findings attest that from the mid-2010s a drop is evident in the number of undergraduate students. Moreover, a conspicuous increase is evident in the number of students in the fields of medicine and allied health professions, science and mathematics, engineering and architecture, which are considered applied fields, while a drop is evident in the social sciences, the humanities, law, and business administration. These findings point to the tendency of Generation Z to practical and technological studies more than fields considered less practical. The research conclusions call for implementing several regulation steps in order to adapt the system of higher education to the characteristics and needs of Generation Z, such as expanding the professional training program in less practical disciplines, shortening the duration of studies in technological vocational departments, increasing use of online teaching, and others.

Key Words: Generation Z, Higher Education, Israeli Society, Demand for Higher Education, Society and Education, Public Policy.

Introduction

Over the years, the global system of higher education has experienced many varied changes. Some were connected to changes in the system's scope and size, some to its academic contents, and others to transitions in patterns of teaching and research (Karen, 2002; Jansen, 2004; Kyvik, 2004; Kwiek, 2014). These changes were mostly affected by demographic shifts (Treadwell, 1992; Mizikaci & Baumgartl, 2007), factors related to socioeconomic status (Rodriguez-Hernandez, Cascallar & Kyndt, 2020; Ahn & Davis, 2020), and different technological developments (Cohen & Davidovitch, 2020; Rodrigues, Cerdeira, Machado-

Taylor & Alves, 2021), which left their mark on the demand for higher education and on its various features.

Concurrent with these shifts, worldwide cultural and perceptual changes have also occurred in recent decades, which changed the image of the young generation. This generation is called Generation Z, and its members were born from the mid-1990s until the end of the first decade of the current century (1995-2010) into a world of technology, social networks, and a culture of immediate messages. It is a generation normally characterized by the desire to achieve clear and viable goals in as short a time as possible (Yamane & Kaneko, 2021) as well as by the tendency to implement frequent changes in various aspects of life, such as marital relations and family (Närvänen Kirvesmies & Kahri, 2020), employment and livelihood (Kick, Contacos-Sawyer & Thomas, 2015), and education and higher education (Seemiller & Grace, 2016).

Members of this generation are exposed to academic and professional information on the internet and have advanced technological skills that enable them to retrieve this information easily, and therefore have a low incentive to physically attend face-to-face lectures on campus and even to register for academic studies to begin with. This reality poses new challenges for academic faculty, who must adapt teaching methods and contents to members of Generation Z in order to remain relevant for them (Cilliers, 2017). The leaders of higher education must also adjust the system as much as possible (contents, study duration, and synchronization with the demands of the employment market) to the requirements of this generation (Cohen, 2018).

Accordingly, the study has two purposes: First of all, to examine whether and to what degree the cultural and perceptual characteristics of Generation Z have left their mark on the demand for higher education in Israel, which is the case study in the current research. Secondly, to present recommendations for necessary policy steps required in order to preserve the necessity, efficacy, and relevance of Israel's higher education system. The choice of Israel's higher education system as a case study stems from the fact that academic studies are very common and popular among Israeli society and are perceived as an essential condition for future integration in the employment market as well as a criterion for assessing personal qualities, as shall be expanded below.

The Different Characteristics of Generation Z

Many studies have examined the different characteristics of Generation Z and tried to grasp their way of thinking, behavior, and lifestyle (Töröcsik, Szűcs & Kehl, 2014). Studies that examined Generation Z's attitude to the workplace and their expectations of it showed that receiving feedback on work outcomes is a very crucial component for them. Moreover, a work environment that includes new technologies is their natural environment and they also expect to attain an attractive career that allows rapid promotion (Dolot, 2018). Members of Generation Z increasingly use social networks (Prakash Yadav & Rai, 2017) and utilize them for self-branding, through which they define their identity and their alleged uniqueness, which allows them to experience success, irrespective of their social, financial, or professional status (Vitelar, 2019).

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Generation Z, which encompasses, as stated, people born beginning from the mid-1990s when the internet appeared, are now (2021) occupying institutions of higher education throughout the world. These students have different skills, behavior, and expectations than the millennial

(Generation Y) students who preceded them (Seemiler & Grace, 2017). They have an entrepreneur outlook and wish to acquire practical proficiencies during their studies (Loveland, 2017). Therefore, the system of higher education is require to adapt its teaching and learning processes to the features of this generation's digital conception, by embracing various technological methods, such as gamification and virtualization (Vikhrova, 2017).

The development of the "knowledge society" in recent decades has led to a social transformation, where in order to handle new situations in general and the challenges of the labor market in particular, people need not only knowledge but rather also new proficiencies and skills. Therefore, Generation Z students have applied considerable pressure to change the teaching methods at universities, motivating them to develop innovative programs and new ideas with the purpose of accelerating and improving the teaching and learning process in order to acquire both knowledge and skills. As a result, universities have invested technological resources in promoting new ways of teaching and learning. The use of technology adds value to the teaching and learning experience and improves the student's knowledge acquisition, while also contributing to the promotion and development of the student's additional skills and new capabilities (Hernandez-de-Menendez, Diaz & Morales-Menendez, 2020).

The Development of Israel's System of Higher Education

The digital development processes characteristic of the global system of higher education, as stated, were incorporated in Israel's academic institutions as well, as shall be shown below. First, however, the development of Israel's system of higher education, with its various features, shall be presented.

Israel's system of higher education went through a very considerable process of development since establishment of the state (in 1948) and until the present. During this period, the number of institutions that award academic degrees has grown, and with them the number of undergraduate and graduate students (Davidovitch & Cohen, 2021). Until the early 1990s, Israel had only a limited number of universities, however in 1993 a reform was implemented in the domestic system of higher education, eventually leading to a deep change in opportunities for acquiring an academic education in Israel, a process that took about a decade. As a result of this reform, Israel's system of higher education changed its image, and the universities were joined by many colleges that generated a more open and extensive structure of higher education, with a wide range of disciplines.

Moreover, the development of globalization, technology, and information in recent decades, concurrent with the political reforms, led to a rise in the number of institutions of higher education throughout the world and in Israel in particular, as well as rise in competition between them and a lowering of the barriers to entering higher education (Menahem, 2008). Consequently, Israel's system of higher education doubled in only one decade, with the high demand for academic studies and the opening of new institutions of higher education allowing

The spread of higher education in Israel has made it accessible to many population groups that were previously not part of the academic world. Similar to occurrences around the world (Collins, 2019), in Israel too the need of modern society for proficient and expert personnel generated a huge demand for academic studies. In fact, since the reform in the system of higher education the number of academic students in Israel has multiplied by at least 5.2: In 1990, there were 487,750 students in the entire system, while by 2017 (only two and a half decades after the reform) it encompassed 914,267 students.¹ The number of undergraduate students rose in this period by 281%, the number of Master's degree students by 268%, and the number of PhD students by 336% (Haliva, 2020).

Moreover, an OECD report² published in September 2020 ranked Israel among the first in the world (after Canada and Luxembourg) in the proportion of citizens aged 25-64 who had a academic education (51%). Israel has maintained this high ranking for several years running. Hence, it seems that the choice of academic studies has become rooted in Israeli culture and society, becoming the default choice for young people beginning their professional life. Earning an academic degree has begun to be perceived as an essential condition for future integration in the employment market, as well as a criterion for assessing personal qualities. The current study attempts, as stated, to examine whether the different worldview of Generation Z affects the extent of their participation in academic studies in Israel and whether and how it affects the patterns and trends of this participation.

Methodology

Examining the impact of Generation Z's various characteristics on the demand for higher education in Israel will be based on the data of the Israeli Central Bureau of Statistics and the publications in the Council for Higher Education's website. The data will be analyzed by correlational examination of the changes in the distribution of academic students on the various levels (Bachelor's and Master's programs), both quantitatively and regarding the different disciplines, from 2015-2020. The premise is that the first members of Generation Z, born in 1995-2000, constitute the relevant group of undergraduate students in the period examined. Hence, registration trends of this group for academic studies from 2015-2020 will be compared to those in previous years that reflect the preferences of the previous generation (Generation Y). Moreover, the preferences of Generation Z as reflected in the registration data for undergraduate studies from 2015-2020 will be compared to those for advanced degrees (Master's program) in those years, in the assumption that the latter reflect the preferences of the previous generation (Generation Y) who are currently older than 25, having completed their undergraduate studies.

Findings

As stated, the research findings show the trends regarding registration to studies in Israel's academic institutions from 2015-2020. The registration trends in these years reflect, as stated,

¹ Excluding students in the Open University.

² https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_ISR.pdf

the tendencies of Generation Z, in the assumption that those registering for undergraduate studies are young people aged 20-25 who were born from 1995-2000, defined as the beginning of Generation Z.

The Number of Students in Israel’s Academic System from 2015-2020

Young people from Generation Z are characterized, as stated, by a practical outlook with regard to academic studies, as well as a desire for rapid integration in the employment market upon graduation. Therefore, it will be interesting to see whether these perceptions affect the motivation of young people to devote years of their life to academic studies that do not ensure immediate integration in the employment market upon graduation. The figure below describes the number of students in Bachelor’s and Master’s degree programs in Israel’s system of higher education from 2010-2020:

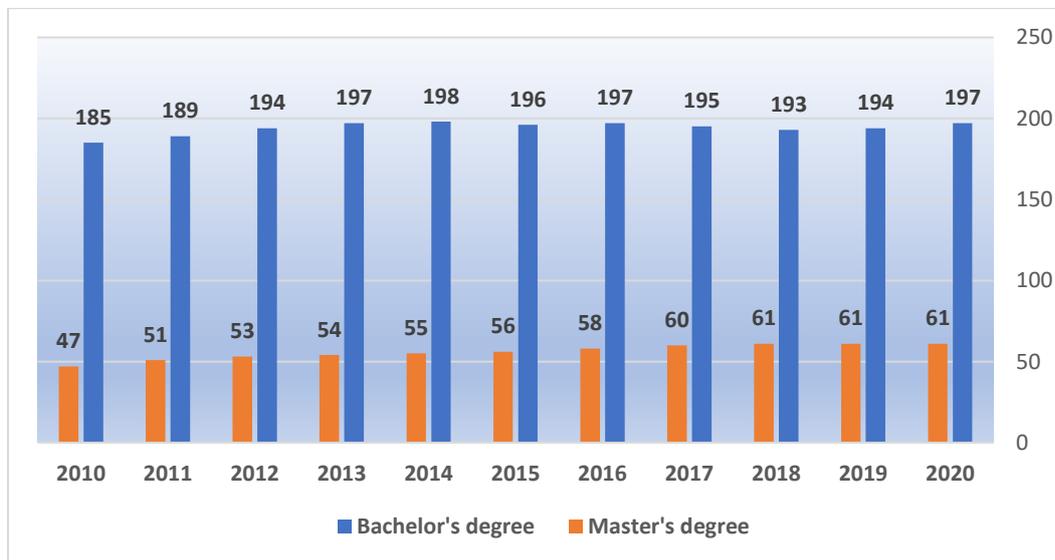


Figure 1 - Number of Students in Israel During 2010-2020 (In Thousands)

Source: Israeli Central Bureau of Statistics, Table 2.34

The data in the above figure show that the increase in the number of students in Israel’s system of higher education, a trend that began, as stated, in the early 1990s (when the reform was initiated) continued until the mid-2010s. This trend is evident both in the number of those studying for a Bachelor’s degree and in those studying for a Master’s degree. From the middle of this decade, however, the number of undergraduate students began to decline, until 2019 (inclusive), while the number of Master’s degree students continued to rise, until stabilizing during 2018-2020.

As stated, those registering for undergraduate studies in Israel are usually young people aged 20-25 born in 1995-2000, constituting the beginning of Generation Z. The data in the figure show that beginning from the mid-2010s a drop is evident in the number of undergraduate students. It is not inevitable that their practical and pragmatic outlook caused

them to doubt the ability of academic studies to ensure employment. This outlook can explain the change in registration for undergraduate studies in Israel and the beginning of the drop in registration after many years of a continuous rise. Nevertheless, in 2020 a renewed increase in the number of undergraduate students is evident, however this trend is probably a result of the COVID-19 pandemic which occurred that year and led to paralysis of the economy and the halt of overseas travel. These circumstances prevented large numbers of young Israelis from embarking on the long traditional trip to the Far East or South America after concluding their military service (Bloch-Tzemach, 2005; Reichel, Fuchs & Uriely, 2009; Noy & Cohen, 2012) or alternately, from promptly joining the domestic employment market, and therefore they decided to register for academic studies until life should resume its course.³

In contrast, examination of registration trends for Master’s degree studies shows, as stated, a continued rise throughout the period studied. This trend may be related to the fact that these Master’s degree students are mostly people older than 25 who do not belong to Generation Z but are rather the last of Generation Y. Members of this generation do not share the pragmatic outlook of the next generation and therefore see higher education as an essential condition for integration and promotion in the employment market. In addition, Master’s degree studies are more focused and practical than undergraduate studies and therefore students see their potential for professional integration and promotion.

In order to further establish the arguments presented above (Figure 1) on the declining trend in the number of Generation Z students in Israel, data for those studying in Israel’s system of higher education will be presented below by age group. The 18-21, 22-24, and 25-29 age groups represent Generation Z, while the 30-39 age group represents Generation Y.

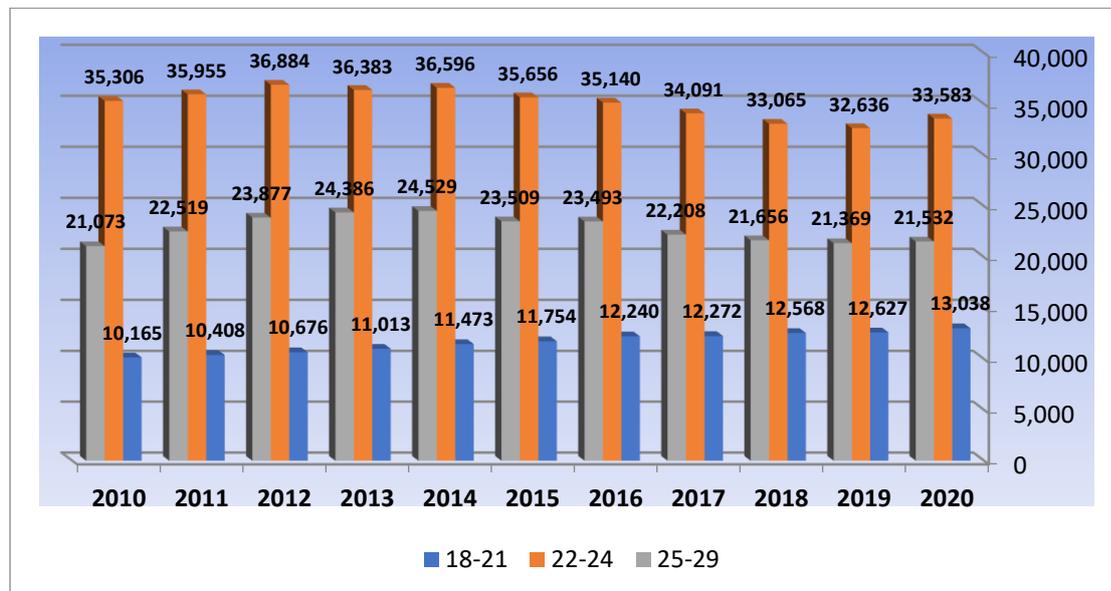


Figure 2 - Israeli Students by Age Group During 2010-2020 (Bachelor’s Degree)

³ Source: <https://news.walla.co.il/item/3391432> (October 10, 2020).

Source: Israeli Central Bureau of Statistics, Table 2.34

The data in the figure above reinforce the findings presented in the previous figure and show that the number of students in the Generation Z age groups is on the whole on the decline. As stated, those aged 20-25 (and younger) during 2015-2020 are members of Generation Z and are therefore included in all three age groups presented in the figure above, although differently, as detailed below:

The entire 18-21 age group is contained by definition in Generation Z, however 18-19-year-olds are normally not academic students. This is because Israel's compulsory military service law obliges all young people to serve in the army or perform national service, aside from those belonging to the ultra-Orthodox sector who are usually exempt from military and national service under the "Tal Law" (Bick, 2010). Hence, the rise in the number of students from this age group, as shown in the figure, is probably related to implementation of programs for integration of the ultra-Orthodox in academic settings (Haron & Azuri, 2016; Avugos & Zach, 2021), which grew during 2015-2020. Hence, although these are Generation Z students, the increase in their numbers does not contradict the claim presented above concerning the diminished tendency of this generation to take part in undergraduate studies.

This claim is based on the consistent and clear drop in the number of students from the 22-24 age group (Generation Z) from the mid-2010s until 2019.⁴ The drop is particularly conspicuous in light of previous years, when a constant rise was evident in the number of undergraduate students from among this age group (in those years reflecting registration trends among Generation Y). However, among the 25-29 age group less of a decline was evident in the number of undergraduate students in the years examined. This age group includes both young people from Generation Z (aged 25) and the last of Generation Y (ages 26-29). Hence, it is only reasonable that the decline in the number of students reflects a more moderate trend than in the previous age group (22-24).

Trends and Study Disciplines of Generation Z in Israel's System of Higher Education

Distribution of undergraduate students during 2015-2020

The pragmatic outlook of Generation Z with regard to academic studies and employment is also evident in their choice of discipline. The research findings show that from the mid-2010s (2015-2020) changes are evident in the patterns of registration for undergraduate studies in Israel's system of higher education. As stated, young people in Israel begin their academic studies at a relatively older age than in other countries (Fuchs, 2015) because they are obliged to participate in military or national service before beginning their studies or joining the employment market. Therefore, these young people who were 20-25 years old in the mid-2010s were born in the initial years of Generation Z.

The data in the figure below indicate several changes in the patterns of registration for undergraduate studies during 2015-2020: On one hand, these years marked the beginning of a consistent drop in registrations for the social sciences and the humanities. These disciplines are perceived as less pragmatic and do not improve the graduate's chances of finding a job in the field studied. In addition, after many years of increase in the number of law and business

⁴ As stated, in 2020 a rise was evident in the number of students in Israel's system of higher education as a direct effect of the COVID-19 pandemic and the accompanying lockdown policy.

administration students, fields considered prestigious in Israeli society, a decline is evident in the number of students in these fields. The rapid increase in the supply of graduates of these disciplines over the years, since the reform in Israel’s system of higher education (Cohen & Davidovitch, 2016), may have led to a decline in the reputation of these disciplines and in the demand for them in the labor market, and accordingly, a decline in salaries and employment terms. Therefore, it is only reasonable that the demand for these programs diminished.

On the other hand, a significant increase is evident in the fields of medicine and allied health professions, science and mathematics, engineering and architecture. These disciplines are considered practical and they give graduates many employment options and high pay terms. The current findings indicate the tendency of Generation Z to choose practical and technological studies over the social sciences, the humanities, law, and administration. The young members of Generation Z seem to be aware of the growing demand in the Israeli employment market for doctors, engineers, technology and science personnel, and therefore seek to acquire an education in these areas.

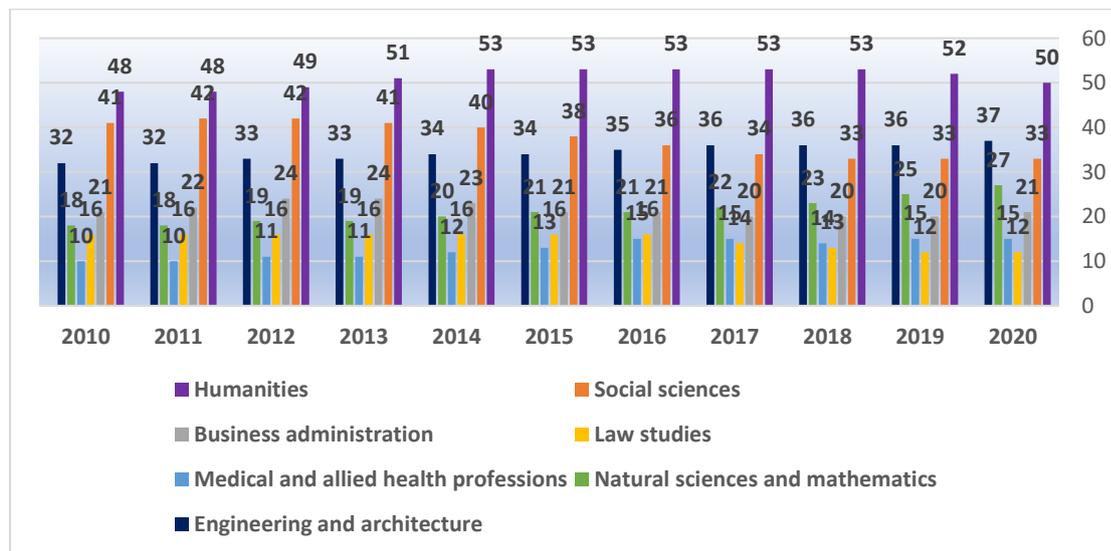


Figure 3 - Undergraduate Students in Israel by Fields of Study for 2010-2020 (In Thousands)

Source: Israeli Central Bureau of Statistics, Table 2.3.1: Undergraduate students in universities and colleges.

Distribution of Master’s degree students during 2015-2020

Examination of the distribution of undergraduate students during 2015-2020 shows, as stated, a declining trend in some of these programs (social sciences, humanities, law, and business administration). In contrast, examination of the distribution of Master’s degree students for 2015-2020, as presented in the figure above, indicates stabilization in almost all disciplines (humanities, social sciences, law, business administration, engineering and architecture) and even a slight increase in the number of students studying medicine and allied health professions and in those of the natural sciences and mathematics.

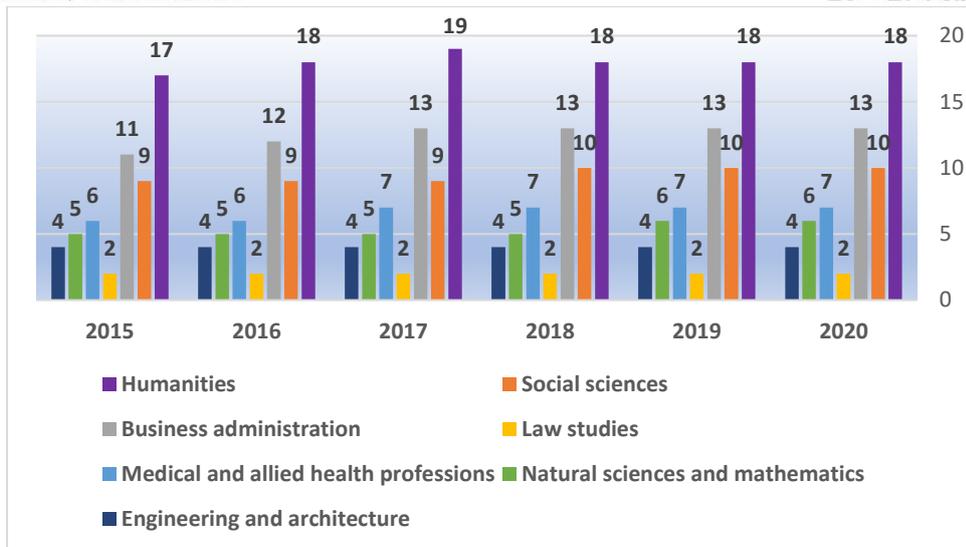


Figure 4 – Master’s Degree Students in Israel by fields of Study for 2015-2020 (In Thousands)

Source: Israeli Central Bureau of Statistics, Table 4.67: Students at university and colleges by field of study and degree.

These findings seem to question the previous explanation of Generation Z’s tendency to choose practical studies and forego less practical disciplines (as evident in the distribution of undergraduate students). But in fact, the findings can be explained without rejecting the explanation presented and in a manner that may even enhance it. First of all, Master’s degree students in Israel are usually older than 25, meaning that they are not included by definition in Generation Z. For instance, a student who was 26 years old in 2020 was born in 1994, before the beginning of Generation Z (in 1995); even more so a student who was 26 years old in 2015 – as he was born in 1989.

Moreover, students who were older than 26 during 2015-2020 – were born even earlier. One way or another, the distribution of Master’s degree students in Israel for 2015-2020 reflects the tendencies of Generation Y, which as stated preceded Generation Z, and these do not share the pragmatic worldview characteristic, as stated, of the younger generation. Secondly, as mentioned above, Master’s degree students (irrespective of their generation) usually seek to become more professional and proficient in the discipline they studied in their undergraduate studies, with the aim of finding a job in this field or advancing in their current workplace, such that their studies are more pragmatic than undergraduate studies, including in the social sciences, humanities, law, and business administration. Therefore, these two explanations make it possible to continue upholding the argument that Generation Z tend to forego disciplines considered less pragmatic and choose those considered more professional, notwithstanding the data on Master’s degree students presented in the figure above.

Conclusions

This study sought, as stated, to examine the effect of the pragmatic outlook of Generation Z on trends concerning registration for undergraduate studies in the Israeli system of higher education. The research findings show that from the mid-2010s a drop is evident in the number

of undergraduate students, while examination of the number of Master's degree students shows a constant increase throughout the period examined.

Undergraduate students in Israel are usually young people aged 20-25 who are therefore included by definition in Generation Z. Thus, the drop in the number of undergraduate students among this group can be attributed to their typical practical and pragmatic outlook, which causes them to doubt the capacity of academic education to provide them with a fair and attractive job. Indeed, the research findings show that in 2020 a renewed rise is evident in the number of undergraduate students in Israel, however this trend was explained as an effect of the lengthy lockdown policy implemented in the country during the COVID-19 pandemic, which encouraged young people to register for academic studies in the absence of realistic alternatives for employment or a long trip overseas. In contrast, Master's degree students are usually older than 25 and are therefore not part of Generation Z, rather the last of Generation Y. Members of this generation do not share the pragmatic outlook of the next generation and therefore see higher education as an essential condition for their integration or promotion in the employment market. This may explain the increase in the number of Master's degree students during the period examined.

In addition, the research findings attest to a conspicuous increase in the number of undergraduate students in the fields of medicine and the allied health professions, as well as science and mathematics, engineering and architecture, which are considered applied fields, while in the disciplines of the social sciences, humanities, law, and administration a drop is evident. These findings attest to the tendency of Generation Z to opt for practical and technological academic studies over academic studies considered less practical. This trend is not evident in the data for Master's degree students in Israel in the years examined. Nonetheless, this finding does not contradict the claims presented above, since the data on the distribution of Master's degree students in Israel for 2015-2020 (older than 25) reflect the tendencies of Generation Y, which as stated preceded Generation Z and its members as stated do not share the pragmatic worldview typical as stated of Generation Z. Moreover, Master's degree students usually seek to become more professional and to specialize in the discipline they chose in their undergraduate studies in order to find a job in their field or advance in the current workplace, such that their studies are more pragmatic than undergraduate studies, including in the social sciences, humanities, law, and business administration.

Accordingly, it is very important to enhance the relevance of the system of higher education for the labor market. In order to efficiently shape the various study programs, it is necessary to recognize the fact that the global labor market in general and the Israeli one in particular have experienced considerable changes in recent decades. These changes originate from demographic, technological, gender, and economic shifts that are affecting various aspects of the labor market, including the structure of the market, the place of new technologies within it, the relationship between employees and employers, and the personnel needs of the market (Cohen, 2018).

The research findings attest, as stated, to a drop in the acquisition of higher education among Generation Z on one hand and the abandoning of disciplines that are less practical for the labor market on the other. Therefore, public policymakers must identify and recognize the characteristics, needs, and requirements of future employees and current students of the new generation (Generation Z), so that the system of higher education will prepare them appropriately for the employment market and enable their integration within it. Many studies relate to the role of public policy in shaping the system of higher education according to the

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needs and goals of the local labor market (Nicholson-Crotty & Meier, 2003; Pasque, 2010; Sin & Amaral, 2016). Accordingly, the research conclusions call for implementing several regulation steps in order to adapt the system of higher education to the characteristics and needs of Generation Z, as follows:

Expand the Professional Training Program in Academic Departments Considered Less Practical

A recent study that examined the functioning of Israel's Council for Higher Education (Davidovitch & Cohen, 2021) attests that this regulatory body recognizes the significance of higher education for the integration of graduates in the labor market and therefore in recent years⁵ approved a support program for encouraging "learning that combines practical experience" as part of undergraduate studies in Israel's institutions of higher education. In this program, the funded institutions will receive incentives to develop an institutional system in charge of all learning that combines practical experiencing and academic contents, including courses encompassing practical experiences that will be offered to undergraduate students, particularly in the social sciences and the humanities. The courses will be offered in fields that do not include practical experience or training as part of the requirements for a degree.

At the same time, since the Council for Higher Education recognizes the need for training and practical experience in the departments of social sciences and the humanities as well, it should include these courses as mandatory requirements for a degree rather than leaving them to the discretion of the teaching institution or of the student. Such a step can raise the prestige of these disciplines as perceived by Generation Z, stop the abandoning of these disciplines, and even increase registration to them.

Shortening the Duration of Studies in Vocational Technological Departments

The tendency of Generation Z to opt for employment-focused studies stimulates their integration in technological and scientific academic departments, in the assumption and hope that these studies will help them become integrated in the employment market upon graduation. Nevertheless, these disciplines are very dynamic and affected by accelerated technological and scientific developments around the world.

Therefore, a student who studied for 3-4 years in academia and acquired a technological-scientific academic education necessary for the employment market might find out in retrospect that the degree earned is no longer suitable for the dynamic employment market. Therefore, it is suggested that the student's training period in these departments be shortened as much as possible by eliminating complementary courses that are not essential for the discipline (such as expansion courses and electives), on one hand, and by including more courses in each semester, on the other. In this way, it will be possible to shorten the study period in these disciplines and allow graduates of these departments to become integrated in the employment market more easily and efficiently.

Increasing the Use of Online Learning and Technological Aids

The tendency of Generation Z to embrace new technologies and recognition of the fact that a work and teaching environment that combines new technologies is their natural environment,

⁵ Source: Meeting of the Council for Higher Education on April 11, 2019. Protocol no. 26 (605).

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in addition to the need to shorten the duration of academic training (as presented above) justify initiating increased use of online learning within the system of higher education. Indeed, the outbreak of the COVID-19 pandemic in early 2020 compelled Israel's system of higher education (similar to those of other countries) to find prompt solutions for the new circumstances that prevented continued physical activity on the various campuses and to apply online learning in the entire academic system. In practice, however, this accelerated development resulted from needs, constraints, and opportunities that emerged in the free market rather than stemming from an organized public policy by the Ministry of Education and Council for Higher Education (Cohen & Davidovitch, 2020).

Therefore, the research conclusions call for shaping in advance an organized policy of promoting and integrating technological processes in academic teaching and learning, in order to adapt the system of higher education to the characteristics and needs of Generation Z and to members of the next generation, future students – Generation Alpha.⁶ The transformation of as many courses as possible to online or hybrid courses will make it possible to coordinate and hold more courses during the week and hence will also shorten the duration of studies for the entire academic degree. Such policy is capable of attracting young people to higher education and increasing its suitability, efficiency, and contribution for these students on one hand and for the needs of the current and future labor market on the other.

Declarations:

Funding: No funding was received for this study.

Conflict of interest: The authors declare no conflict of interest.

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⁶ Generation Alpha is the generation after Generation Z. Since there is no full agreement as to the initial and concluding year of the generation, its boundaries have not yet been formed. Generation Alpha are usually the children of Generation Y.

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