

Performance and Visibility

How does the Hungarian Academy of Sciences support women researchers?

Enikő Bollobás

Abstract: The study identifies performance and visibility as the two most important prerequisites for the academic advancement of women researchers, and presents the measures introduced by the Hungarian Academy of Sciences to facilitate and strengthen their fulfillment. The Presidential Committee on Women in Science of the Hungarian Academy of Sciences (HAS; Magyar Tudományos Akadémia, MTA) has been working to improve the research conditions for women since 2017. Their aim is to enhance women's publication performance, from the acquisition of the PhD degree to election as a member of the Academy. In addition to these measures, the Committee has also contributed in several ways to increasing the visibility of women researchers: it has organized conferences and supported research projects that have explored the causes of the publication lag often observed among women researchers, as well as the possibilities for overcoming these disadvantages. Moreover, it has presented the model life paths of women scientists of the past in various Hungarian- and English-language publications to facilitate greater recognition shown to women scholars and scientists. The career trajectories presented in these publications attest to a competitive academic context in which women performed as strongly as their male colleagues, yet often without the recognition they would have deserved.

Keywords: *women's publication performance, women's academic advancement, performance-enhancing measures of HAS, recognition of women's performance, HAS measures to enhance visibility of women in academia.*

Biography: Enikő Bollobás (D.Litt.), Professor Emerita of Literature at Eötvös Loránd University, Budapest, has published extensively on American and Hungarian literature. Her books include two histories of American literature (Osiris, 2005 and 2015); surveys of American free verse and non-lyric poetries (Akadémiai, 1986 and 2020), monographs on the poetries of Charles Olson (Twayne, 1992), Emily Dickinson (Balassi, 2015), and Géza Szőcs (Balassi, 2025); and theoretical inquiries into poetics, subjectivity, and performativity (Eötvös 2021; Balassi, 2020; Balassi, 2015; Peter Lang, 2010). Her numerous essays have appeared in international and Hungarian scholarly journals. Professor Bollobás is a full member of the Hungarian Academy of Sciences and editor-in-chief of the Academy's monthly journal, Magyar Tudomány (Hungarian Science). bollobas.eniko@btk.elte.hu

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In the present study, I discuss two interlocking problems women researchers must face: publication output, or scholarly and scientific performance in the broader sense, and the recognition of women’s performance when it comes to academic advancement. I shall first address the most recent studies concerning performance, published in several studies in the journal of the Hungarian Academy of Sciences, *Magyar Tudomány* [Hungarian Science/Scholarship].

1. On the performance gap between male and female researchers

It is well known that the professional advancement of women researchers lags behind that of men. The question is how we explain this situation: what causes the lag in the career advancement of women researchers? Can we say simply that science is just as male-dominated as society itself? Are there causes other than the injustices of the system? Are male and female publication productivity identical, yet is advancement hindered—or at least limited—by the sexism permeating society? Or perhaps do both publication rates and recognition differ? In the first part of my study, I seek answers to these questions, first revealing the problems we must tackle.

The basic problem—illustrated by the employment pyramid in the academic sphere and the ever-widening scissors—is well known to everyone world-wide. This was the situation in 2016:

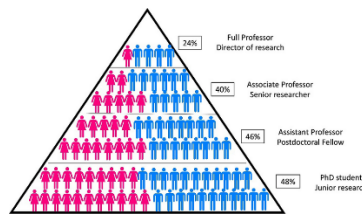


Figure 1. Employment pyramid

(Source: UNESCO and Equal Skills Coalition 2019)

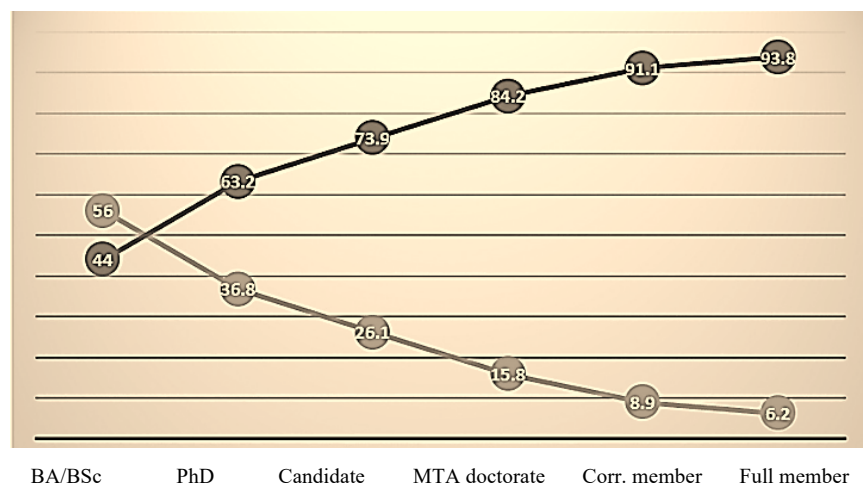


Figure 2. Gender distribution in academia in Hungary in 2016.

(Source: Lannert – Nagy 2019)

While there are roughly as many women as men participating in doctoral training at the student level, the proportion of women earning the doctoral degree is slightly lower: 47.5%. This still almost equal gender distribution is greatly upset among those earning the MTA doctorate (Doctor of the Hungarian Academy of Sciences, MTA doktora) title: by the end of 2025 the total number of researchers who had received the Doctor of the Hungarian Academy of Sciences scientific title was 2,593, of whom 475 were women and 2,118 men. In other words, women holding the title of Doctor of the Hungarian Academy of Sciences constitute only 18.32% of the total.

	The number of MTA doctors, 2019–2025						
	2019	2020	2021	2022	2023	2024	2025
Women	418	415	431	441	450	460	475
Men	2,259	2,204	2,168	2,131	2,122	2,128	2,118
Total	2,677	2,619	2,599	2,572	2,572	2,588	2,593
Ratio of women	15.61%	15.85%	16.58%	17.15%	17.50%	17.77%	18.32%

Table 1. Gender distribution among doctors of the Hungarian Academy of Sciences, 2019–2025. (Source: HAS Doctoral Council [MTA Doktori Tanács], prepared upon request by Csaba Horváth)

Women do not even reach 20% in a competition that—through the attainment of the MTA doctorate title—would open the way to higher-level career opportunities. Moreover, obtaining this title depends on the candidate’s own decision; that is, on the willingness of those holding a PhD to advance further, and on their determination to overcome both personal and systemic obstacles to obtain the highest academic title in Hungary.

The same cannot be said of corresponding membership of the Hungarian Academy of Sciences, which is a function not only of performance but also of the rigorous evaluation of performance. So, if women suffer disadvantages despite performances equal to those of men, then we may indeed speak of a systemic problem. The Hungarian Academy of Sciences (ideally) numbers 365 members (including corresponding and full members), of whom 37 are currently women. The situation appears even less favorable when considered historically: since its founding in 1825, the Academy has had 3,306 members in total, of whom 50 have been women. It is equally clear that the higher one looks within the hierarchy, the fewer women are to be found at the upper levels of leadership, among the heads of universities and research institutes.

Among the causes of this asymmetrical situation, are the restraining influence of the workplace milieu, cultural norms, the absence of a supportive family environment, individual factors, and highly visible structural obstacles. Among these obstacles, Andrea Toldy and her collaborators

identify three:¹ the “leaky pipeline” (as a consequence of which women researchers gradually disappear), the “sticky floor” (which prevents women researchers from moving beyond the middle levels of universities and research institutes), and the “glass ceiling” (which imposes an apparently insurmountable barrier to women’s advancement within organizational hierarchies) (Toldy et al. 2025: 1773–1774). In my view, the leaky pipeline and the sticky floor function primarily as inhibiting factors during the first two-thirds of the career trajectory, whereas the glass ceiling operates more characteristically in the final third, blocking further advancement. While the leaky pipeline and the sticky floor may indicate a stalling of performance, the glass ceiling constitutes an external constraint that impedes professional advancement.

Andrea Toldy and her co-authors examine the situation of women researchers from a European comparative perspective, focusing on the structural factors influencing research careers and the specific characteristics of research funding systems. The authors point out that in Hungary the proportion of women in academic careers—especially in STEM positions—is among the lowest in the European Union, partly due to the difficulties of reconciling an academic career with family life. The study emphasizes that different factors affect women’s performance at various stages of their research careers, including individual, familial, social, and institutional influences.

The authors also analyze gender differences in publication performance and citation rates. The data indicate that at the beginning of their careers, the performance of male and female researchers is comparable; however, differences emerge later, largely attributable to career interruptions associated with childbearing. According to the findings, “a significant difference was observed to the disadvantage of women raising children in the 36–40 age group” (Toldy et al. 2025: 1776). Childbearing does not merely result in a temporary setback: its effects are also detectable in the indicators of academic performance over the longer term. As the study concludes, “childbearing affects the career at any stage of the life course, as it involves career interruption with prolonged consequences” (1776). Current research evaluation and funding systems often fail to account for career interruptions adequately. This poses a particular challenge for early-career researchers, as the period of childbearing frequently coincides with the stage of the career when the most important research grant applications can be submitted.

The authors formulate several recommendations for developing of a more equitable system of evaluation and funding. They point out that taking career interruptions into account is a fundamental condition of realistic performance assessment: “career interruptions should be incorporated into scientometric and other forms of performance evaluation” (1784). They further argue that provisions related to childbearing should not apply exclusively to children born after the completion of the PhD, since “the burdens of childcare do not cease with the attainment of the PhD” (1784). Overall, the study concludes that a complex set of interrelated factors shapes the underrepresentation of women in academic careers. The conscious restructuring of research funding and evaluation systems—particularly the fair treatment of career interruptions associated with childbearing—is a key prerequisite for more equal participation of men and women in science.

¹ All English translations of terminology and quotations from Toldy et al. (2025) and other papers written originally in Hungarian are mine.

Also in 2025, György Kaptay and Árpád Bence Palotás conducted an extensive analytical study on the gender distribution of publication data, disaggregating it by both gender and age, including both chronological and research age. Despite the originality of their methodological approach, their findings largely corroborate the claims advanced by Andrea Toldy and her co-authors.

The basic premise here is that there are no substantial differences between women and men in either cognitive abilities or in potential research performance; ideally, therefore, the proportion of the two genders in academic life should be roughly equal. Nevertheless, within the Hungarian institutional system of research, the proportion of women is significantly lower at the higher levels of the hierarchy, indicating structural inequality.

The authors point out that while the proportion of women among university graduates already exceeds fifty percent, a marked underrepresentation is evident in the higher academic echelons. Among the full and corresponding members of the Hungarian Academy of Sciences, for example, women account for only about one-tenth. To capture this discrepancy, they introduce the concept of the *macho index*, which measures the extent to which the gender composition of a given social group deviates from the ideal fifty/fifty balance. The data show that the higher the position, the greater this deviation.

The MTMT (Magyar Tudományos Művek Tára) database provides the empirical basis of the analysis. Kaptay and Palotás downloaded the complete MTMT dataset on 18 January 2025; on this basis, they processed the data of more than 16,000 researchers, encompassing a total of 1.44 million publications and nearly 8 million independent citations. During their analysis, they paid particular attention to the temporal dimension of the academic career: *research age* was calculated from the date of the first publication. Academic performance was measured primarily by the Hirsch index, as it is "currently the only complex scientometric indicator available in MTMT" (Kaptay & Palotás 2025: 1797).

The survey confirms that no performance gap can be identified in the initial phase of the research careers among women researchers. Indeed, statistical trends suggest that in many cases, young women researchers start more strongly than their male counterparts. This is particularly evident among those born in 1985, where men and women produced their first publications at roughly the same age. The trend appears to be shifting in favor of women, insofar as among those born after 1995, women tend to publish earlier than men (1798). The gap emerges at later stages of their careers. According to an analysis of publication and citation data, the performance of women researchers increasingly lags behind that of their male counterparts as researcher age advances. The authors primarily associate this with the period of family formation and childbearing. In their interpretation, "women researchers sacrifice a greater share of their lifetime and energy on the altar of family and children than male researchers" (1801). Consequently, during this period women researchers may produce fewer publications, which in the longer term is also reflected in citation counts and in the H-index, as indicated in Table 2, showing average publication output and citation impact of men and women.

Specifics		men's average	women's average	women in relation to men
number of publications	144	161	114	-29.2 %
number of independent citations	965	1,178	558	-52.6%
H-index	11.0	12.1	8.8	-27.3 %

Table 2. Women's and men's publication output and citation impact.
(Source: Kaptay & Palotás 2025)

If we consider strict numerical averages, it may be stated that women have fewer publications: 114 as opposed to 161 for men. In other words, women display nearly a 30% lag in publication performance. Naturally, the number of independent citations and the H-index are correspondingly lower. "This is logical if we accept that, on average, women and men produce academic works of equal value and therefore, on average, possess equal capacity to attract citations," the authors write (1799–1800).

One of the most important results of the study is the quantification of the temporal disadvantage described above. The scientific performance of women researchers at certain stages of the life course reaches the level of male researchers only after a delay of several years. The following two tables illustrate these data in a particularly strikingly.

Men's research (and actual) age	Women's fallback in terms of research (and actual) years
0 (22.4)	0 (-1.9)
5 (28.1)	1.6 (0.6)
10 (33.7)	3.5 (3.6)
15 (39.4)	5.7 (6.9)
20 (45.0)	8.8 (11.4)
25 (50.7)	14.0 (18.4)
28 (54.1) and above	"infinite"

Table 3. Men's research (and actual) age and women's fallback in research (and actual) years.
(Source: Kaptay & Palotás)

Women's research (and actual) age	Women's fallback in terms of research (and actual) years
0 (20.5)	0 (-1.9)
5 (26.7)	1.2 (0)
10 (33.0)	2.5 (2.1)
15 (39.2)	3.9 (4.2)
20 (45.4)	5.5 (6.6)
25 (51.7)	7.3 (9.3)
30 (57.9)	9.3 (12.1)
35 (64.2)	11.7 (15.4)
40 (70.4)	14.6 (19.3)
45 (76.6)	18.2 (23.9)
50 (82.9)	22.5 (29.4)
55 (89.1)	27.6 (35.7)

Table 4. Women's research (and actual) age and women's fallback in research (and actual) years.
(Source: Kaptay & Palotás)

It can be observed, for example, that the average performance of a male researcher with ten years of research age is reached by women researchers only 2.5 years later; the advantage of men with forty years of research age amounts to 14.6 years, while for men who have been active on the academic career path for fifty-five years, the advantage reaches 27.6 years. In other words, the temporal disadvantage is already measurable at 10–20 years by the middle stage of the career.

The difference, therefore, does not merely represent a temporary divergence, but rather the result of a cumulative effect that influences researchers' careers overall. The gap between the male and female ages corresponding to identical levels of academic performance gradually widens; women approach (or would approach) the level of performance achieved by men in their early fifties only when nearing the age of eighty.

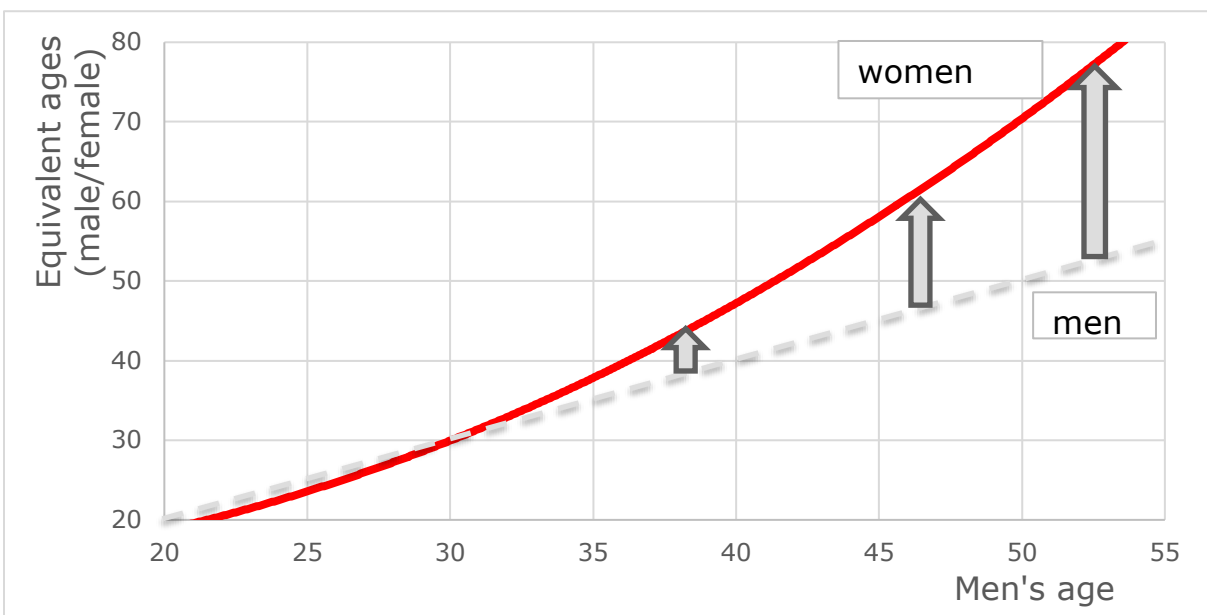


Figure 3. Women's and men's equivalent ages. (Source: Kaptay & Palotás)

The authors repeatedly emphasize that this difference does not stem from disparities in ability, but rather from social expectations and structural characteristics of career trajectories. Owing to the loss of time resulting from family responsibilities, "the academic works that women researchers do not write consequently also fail to receive citations" (Kaptay & Palotás 2025: 1794), which in the long term produces a measurable disadvantage in scientometric indicators such as the H-index.

According to the study's conclusion, the current systems of scientific evaluation and promotion—which rely primarily on cumulative publication and citation indicators—do not adequately take into account this structural difference. The authors therefore argue that the scientific institutional system should establish rules to compensate for the time loss experienced by women researchers due to family roles. In their view, only such measures can prevent the present underrepresentation from becoming permanently entrenched. The authors express the hope that the empirical data may contribute to the development of compensatory regulations that would "restore to women

researchers those additional years which, in comparison with their male colleagues, they devoted [...] to establishing their families and raising their children" (1794).

A brief article by Márta Kurutzné Kovács, reflecting on the lessons of a Hungarian Science Festival (Magyar Tudomány Ünnepe, MTÜ) event held in November 2024 under the auspices of the Presidential Committee on Women in Science, draws attention to the fact that reconciling an academic career and childbearing confronts women with structural difficulties. According to the author, the lag observed in the careers of women researchers is closely linked to the period of childbearing, which from the perspective of a research career coincides precisely with the most productive years of life.

One of the study's central insights is that the problem is often interpreted too narrowly: it is not only the care of children already born that entails a loss of time, but also the period between conception and birth, which frequently imposes considerable physical and psychological burdens upon women. Behind the statistical figures there often lie invisible losses—unsuccessful pregnancies, miscarriages, and prolonged medical treatments. Such experiences rarely appear in the academic discourse, yet they exert a profound influence upon women's life trajectories. As the author emphasizes: "Reconciling women's childbearing with a successful scientific career is not easy" (Kurutzné 2025: 1807). Pregnancy, high-risk pregnancies, miscarriages, or infertility treatments all involve difficulties that frequently remove years from the time available for research work: "it is precisely at this point that many years of creative energy are lost from women's lives" (1808).

According to the study's conclusion, the lag experienced by women researchers is caused not by individual decisions, but by biological and social factors linked to the life cycle. The author therefore calls for institutional solutions; for example, considering the specific burdens arising from childbearing, more flexible age limits and compensatory mechanisms would restore the time lost within the scientific career.

Judit Acsády and Csilla Gábor analyze the gender ratios in the membership of the Hungarian Academy of Sciences, with particular attention to recent membership elections. By means of statistical data placed within a historical context, the authors demonstrate that "the number of women among the full and corresponding members of the Hungarian Academy of Sciences falls far short of the representation that might be expected in light of women's scientific achievements," and it falls short of other national Academies as well (Acsády & Gábor 2025: 128). The research examines the data from the 2019 and 2022 Academy elections, which indicate that although minor advances have occurred, the underlying disproportionality has remained essentially unchanged. The authors further point out that the problem appears not only in the final outcome of Academy elections, but already at the stage of nomination: "in the process of becoming an academician, the number of female candidates is already decisively low at the nomination stage" (132), which naturally reproduces the imbalance.

The analysis also presents in detail the gender ratios within the different membership categories—full members, corresponding members, external members, and honorary members. Among external members the proportion of women is somewhat higher, though still low: according to the examined data, only 23 of the 180 external members are women, representing 12.77%. The proportion is even less favorable among honorary members: only six women among 181 members,

or 3.31%. These figures indicate that the presence of women within the academic elite continues to be the exception rather than the rule.

The study also addresses the paradox that in several academic fields—particularly in the humanities and the social sciences—the proportion of women researchers is relatively high, yet this is not reflected in Academy membership. According to the authors, “in those disciplines in which the proportion of women graduating from universities and entering research careers is characteristically higher [...], the proportion of women elected as corresponding members nevertheless does not increase” (133). This suggests that the problem lies not merely in the pipeline of recruitment, but rather in the later stages of career trajectories and in institutional decision-making processes.

The authors also emphasize the social embeddedness of academic careers. The academic world—like broader society—operates under the influence of value systems and behavioral patterns that frequently place women at a disadvantage. The advancement of women researchers is therefore not solely a matter of individual performance, but also the product of institutional culture and social expectations.

In sum, the study concludes that the low proportion of women within the membership of the Hungarian Academy of Sciences can be traced back to structural causes. Although several initiatives have been launched in recent years to improve the situation, the available data indicate that their impact has thus far been limited. According to the authors, genuine change would require the conscious transformation of nomination and election practices, as well as institutional support for women’s scientific career trajectories.

The studies summarized above draw on the most recent empirical investigations to demonstrate discrepancies in the performance of women and men researchers, including the temporal lag and the publication deficit observed among women. The surveys show that, from the perspective of performance driven by individual initiative, women fall behind their male colleagues—a circumstance which, alongside systemic factors, helps to explain the discrepancy in professional advancement between women and men, as well as the career inequalities produced through institutional decision-making.

2. Attempts at improvement: what is the Academy doing?

Institutions committed to supporting women researchers—among them the Hungarian Academy of Sciences—must address systemic problems; more precisely, the system itself must be improved and transformed. Within this system, it is necessary to establish conditions of performance that , on the one hand, enable women researchers to attain levels of achievement comparable to those of men, including publication output and, based on individual initiative, the attainment of the title of Doctor of the Hungarian Academy of Sciences. On the other hand, these conditions should facilitate recognition, so that, in accordance with their now-enhanced performance, women may advance appropriately within the hierarchies of universities and research institutes, occupy leadership positions, and be duly considered at the time of election to Academy membership.

The Hungarian Academy of Sciences has introduced performance-enhancing measures to improve the publication output of women pursuing research careers, and to bring the completion of the

dissertation required for the Doctor of the Hungarian Academy of Sciences title and the fulfillment of the corresponding publication requirements within closer reach.

2.1. Performance-enhancing measures of the Hungarian Academy of Sciences

The Hungarian Academy of Sciences has, first and foremost, introduced in several calls for applications age limits and age-related allowances that consider the number of children. Thus, both the National Research Program of Excellence (Nemzeti Kutatási Kiválósági Program, NKKP) Starting grant scheme and the Hungarian Research Network (HUN-REN) Supported Research Groups program provide an age-limit extension of two years per child, though only with respect to children born after the acquisition of the PhD degree. The János Bolyai Research Scholarship likewise grants a two-year age allowance per child, but only for minor children. The Momentum (Lendület) Starting Program also offers a two-year age extension, though only in proportion to the duration of leave taken following the award of the doctoral degree (see Andrea Toldy et al. 2025: 1778–1781).

By way of comparison, Andrea Toldy and her collaborators list the corresponding provisions of European Union funding schemes analogous to Hungarian academic grants, all of which provide eighteen months of age allowance for women applicants. Thus, the ERC Starting Grants, the ERC Consolidator Grants, and the Marie Curie Postdoctoral Fellowship each grant eighteen months per child—although in the case of the latter, only for children born after the PhD (1778–1781). It may therefore be concluded that the Hungarian schemes are more generous in terms of the length of age-related allowances granted per child, but more restrictive insofar as they consider only children born after the PhD or those who are still minors at the time of application.

The Young Academy of Hungary (Fiatal Kutatók Akadémiája, FKA) has proposed modifications to the calls for all four Hungarian funding schemes, and it appears that, in each case, the initiative to extend eligibility to include children born before the PhD and those who are no longer minors will succeed. This proposal has also been supported and actively promoted by the Presidential Committee on Women in Science in various academic forums. A further achievement attributable to the Young Academy is that periods of career interruption may now be recorded in the Hungarian Scientific Works Database. This is of particular importance for funding schemes that evaluate publication activity as a function of research age.

An outstanding achievement is the grant scheme of the Hungarian Academy of Sciences designed for researchers raising young children (Kisgyermeket Nevelő Kutatók, KGYNK), which was launched by the Presidential Committee on Women in Science under the leadership of Vanda Lamm, with the support of László Lovász, then President of the Academy. Since its inception, the program has, on seven occasions, contributed to the advancement of researchers raising young children or children with disabilities.

Category I of the KGYNK scheme—open to researchers (both women and men) raising children under the age of 14, to single parents, and to parents of children with disabilities—provides support for the writing of the dissertation required for the Doctor of the Hungarian Academy of Sciences title and constitutes a genuine success story. With only one or two exceptions, all recipients of the grant have submitted their applications for the Doctor of the Hungarian Academy of Sciences title,

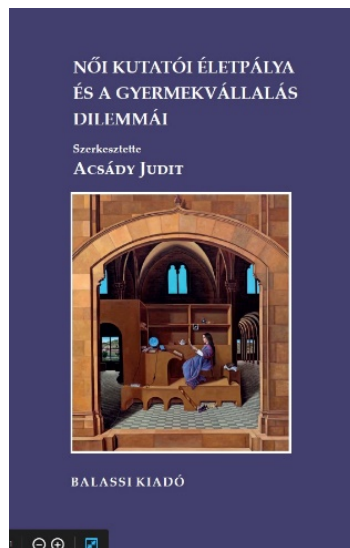
and almost all have either already obtained the title or are currently undergoing the evaluation procedure. Category II of the program supports women researchers raising young children, as well as men who have spent a certain period at home on childcare leave, to facilitate the publication of their results.

Although it concerns a smaller number of women researchers, the issue of women's publication lag has led, in several forums, to the proposal that the otherwise implicit age limit associated with election to Academy membership should also be raised in the case of women. The proposal initiated by Márta Kurutzné Kovács envisages a ten-year age allowance in the election of corresponding members, thereby partially compensating for the time women devote to childbearing—and, indeed, often to the difficulties preceding it. This initiative has already been set in motion and, it is to be hoped, will be given consideration by the respective sections in the 2027 nominations and the 2028 elections.

2.2. Measures to enhance visibility

Among the measures undertaken to increase the recognition of women researchers and women scholars and scientists, I would first mention the events organized within the framework of the Hungarian Science Festival (MTÜ). Since 2019, the Presidential Committee on Women in Science has held a roundtable discussion every November entitled "Women in Science." After the inaugural event in 2019 introducing of the newly elected women corresponding members, we presented, in subsequent years, women's academic achievements and women academics from a wide range of disciplines in a lecture series. Thus, the 2020 series, entitled "Women Researchers on the Frontline of the Pandemic," organized by Erzsébet Ligeti, MHAS, addressed the painfully topical question of the COVID-19 pandemic, and the role that female medical experts from across the fields of medical science played in fighting it.

After I took over chairing the Committee in 2020, I continued to bring together many outstanding scholars and scientists in the joint effort to make female scholarly and scientific achievements visible to the academic community. The 2021 event, "Hidden Processes and Revealed Meanings—On the Past, Language, and Text," featured contributions from representatives of archaeology, literary studies, history, and linguistics. In 2022, two roundtable discussions were held: the morning session, "Biotechnology in Research and Development: Current Trends," focused on biochemistry and biotechnology, while the afternoon online workshop, "The Situation of Women in Scientific Careers," featured presentations by sociologists. In the same year, we also commemorated the centenary of the birth of Vilma Hugonnai, the first Hungarian woman ever to become a medical doctor. In 2023, women researchers in climate research and the earth sciences delivered lectures at the event entitled "From the Past to the Future: New Results in the Study of Climate, Soil, and the Human Body." This was followed in 2024 by our conference, initiated by Márta Kurutzné Kovács, MHAS, and organized by Judit Acsády, called "Scientific Career and Childbearing." This event included talks by demographers, sociologists, historians, and representatives of the Young Academy, detailing the effects of the child-bearing factor in academic performance. Judit Acsády has since collected the edited studies based on the lectures of this event in the volume *Női kutatói életpálya és a gyermekvállalás dilemmái* (Women's Research Careers and the Dilemmas of Childbearing), published by Balassi Kiadó, 2026.



The 2025 program of the Hungarian Science Festival again consisted of two lecture series: in the morning, under the title “Women in Science—Predecessors and Contemporaries,” we heard presentations on outstanding Hungarian women representatives of the humanities and social sciences, the life sciences, and the natural sciences; in the afternoon, young women psychologists presented their own research findings at the conference, organized by Valéria Csépe, MHAS, entitled “Change and Diversity in the Psychological Sciences.”

To increase the visibility of the achievements of women scholars and scientists, the Presidential Committee on Women in Science has also published three volumes—two in English and one in Hungarian (in two volumes)—which present the career trajectories of the most significant women figures in the history of Hungarian science and academia.

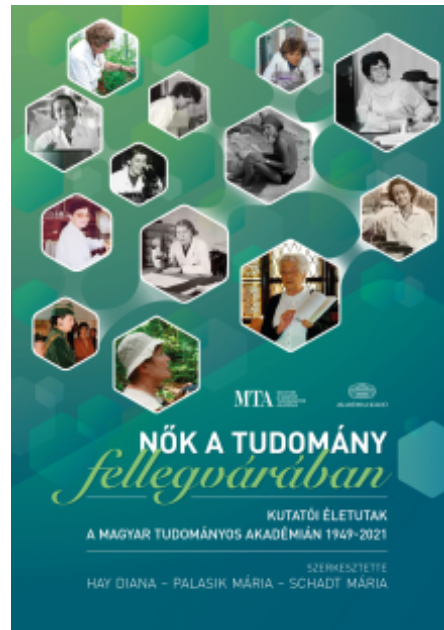
The first volume of *Pioneer Hungarian Women in Science and Education* (Akadémiai Kiadó, 2022), edited by Réka M. Cristian and Anna Kérchy, presents in ten studies the scientific careers of thirteen pioneering Hungarian women. The contributors and their subjects are as follows: Béla Pukánszky discusses the educational reformers Terézia Brunsvik and Blanka Teleki; Réka M. Cristian examines the work of the archaeologist and anthropologist Zsófia Torma; Katalin Kéri addresses the career of the first Hungarian woman astronomer, Berta Degenfeld-Schomburg; Éva Bruckner traces the life of the first Hungarian woman physician, Vilma Hugonnai; Zsuzsanna Arany analyzes the career of the mathematician, philosopher, and movement artist Valéria Dienes; Andrea Raucsik Varga discusses the mineralogist Mária Vendel Dudich; Larisa Kocic-Zámbó writes about the botanist Vera Csapody; Péter Gábor Szabó examines the mathematician Rózsa Péter; Anna Dalos introduces the musicologist Margit Prahács; and finally Magdolna Hargittai presents the research of the biochemist Ilona Banga.



The shared lesson of these portraits is that these women, through their scientific achievements, rose to the forefront of their respective fields, while contending with extraordinary institutional and social obstacles. Their careers provide compelling evidence of both the significance of women's scientific performance and that, to attain scientific recognition, they were often required to exert greater efforts than their male counterparts.

The second volume of *Pioneer Hungarian Women in Science and Education* (Akadémiai Kiadó, 2023) presents, in fifteen chapters, the pioneering life trajectories of twenty-one Hungarian women. The contributors and their subjects are as follows: Éva Bruckner, in two separate studies, discusses the pharmacist Erzsébet Légrády and the pulmonologist Irén Barát; Anna Borgos overviews five women of the Budapest psychoanalytic school—Lilly Hajdu, Edit Gyömrői, Alice Bálint, Vilma Kovács, and Lili Rotter; Márta Font introduces the historian Emma Márta Bartoniek; Soma Rédey examines the solar energy researcher Mária Telkes; Péter Gábor Szabó discusses the mathematician Eszter Klein; Mária Bondár presents three archaeologists—Amália Mozsolics, Erzsébet Patek, and Ida B. Kutzián; Anna Kérchy discusses the psychologist and thanatologist Alaine Polcz; Mária Joó writes about the philosopher Ágnes Heller; Katalin Kéri introduces Antonina De Gerando; Ágnes Zsófia Kovács explores Alice Madzsar; Adél Magyar treats Margit Révész; Béla Pukánszky introduces Erzsébet Dolch Dombrádi; Yusuke Nakahara discusses Margit Varró; Ferenc Hörcher writes about Margit Slachta; and Ágota Budai introduces Dorottya Kanizsai.

The monumental two-volume publication *Nők a tudomány fellegvárában – Kutatói életutak a Magyar Tudományos Akadémián, 1949-2021* (*Women in the Stronghold of Science: Research Career Paths at the Hungarian Academy of Sciences, 1949–2021*) is the result of several years of work by the editors Diána Hay, Mária Palasik, and Mária Schadt, together with eighty-eight contributors. The apt title—borrowed by the editors from one of the pioneering studies of the field's well-known expert, Judit Acsády (Acsády 2010)—accurately expresses the aim of the volume: to present the life trajectories of those women who, since the election of the first woman academician and the introduction of the "Doctor of Science" (DSc, later Doctor of the Hungarian Academy of Sciences, MTA doktora) qualification, have attained this highest academic distinction.



Thanks to the tireless and persistent archival work of the editors—often amounting to veritable investigative research—career profiles have been compiled for all women members of the Hungarian Academy of Sciences and for all women holding the Doctor of Science (DSc) title. Altogether, the volumes present 191 life trajectories of women scholars who died before December 2021.

Five extremely valuable introductory studies contextualize the 191 career narratives: the editors' introduction. Béla Pukánszky's historical overview of the constraints and opportunities of women's education, Monika Kozári's survey of the history of the system of academic qualification, Diána Hay's account of changes in the processes of nomination and election to Academy membership, and the analysis by the editors and Zsuzsanna Potó on the evolving position of women in academia. These overviews provide a broad interpretive framework for the evaluation and understanding of these life trajectories. The career profiles themselves present the lives, scholarly activities, and achievements of the 191 women scientists and scholars according to the structure of the sections of the Hungarian Academy of Sciences, and, within these, by the disciplines associated with each section.

The life trajectories presented in these volumes share numerous features both with one another and with the women scholars discussed in the first volume. Above all, these women were likewise among the leading figures in their respective disciplines. At the same time, they were self-conscious pioneers: they were aware that through their achievements they were opening the doors of science and higher education to other women. In many cases, they were also hindered by the gender hierarchies prevailing within the scientific sphere. Yet the exceptional life paths presented here bear witness not only to difficulties and struggles, but also to joy, success, and the fullness of a creative life.

Perhaps the most striking aspect when reading these volumes is the diversity of circumstances: a wide variety of life trajectories led to outstanding achievements. These scholars came from markedly diverse backgrounds: they were born into intellectual or non-intellectual families,

adhered to more traditional or more liberal value systems, and lived their lives either as married women or as single individuals. It cannot be asserted that either intellectual orientation, family background, or marital status would unequivocally determine who becomes a scholar. Although the adherence to conventional roles may appear as a force to be overcome, or the raising of multiple children as a difficulty, many women nevertheless became accomplished scholars despite these conditions—or perhaps precisely as a result of them and through their sustaining force—thus demonstrating that talent, vocation, and capacity for work are more decisive than circumstances.

They discovered the inner drive necessary for the pursuit of science, the true joy of the scholar, which is nothing other than—in the words of the Hungarian mathematician of the nineteenth century, János Bolyai—"the finding, even on earth, of a lost, original, or even far more beautiful and splendid, rational and cultivated second paradise" (qtd. in Benkő 1972: 34). This is a drive that propels the scholar even in the awareness that no definitive answer to the question may ever be attained: the scientist is inspired not only by the problem itself, but also by the sense of serving humanity through its pursuit. As a reward, they received what Bolyai termed the "inner reward" (*"beljutalom"*; qtd. in Benkő 1972: 34), the exhilarating driving force of creativity infused with a sense of service. In this context, Hungarian-American psychologist Mihály Csíkszentmihályi writes that scientific or scholarly creativity gives rise to a *flow* experience in which the creator becomes one with the task, concentration is brought into sharp focus, and consciousness excludes all distracting factors; this total attention directed toward the here and now frees the individual from anxieties arising from the awareness of the constraints of existence (Csíkszentmihályi 2013: 111–113). Creativity thus becomes an autotelic activity, pursued for its own sake—for the inner reward of Bolyai—whose fruit is itself: the experience of happiness generated by the activity.

The principal aim of the volumes published by the Presidential Committee on Women in Science is precisely to inspire, through the example of the scholars presented therein, future generations to seek this distinctive joy arising from scientific or scholarly achievement: the experience of *flow*, the inner reward. Gratitude is due to Tamás Freund, President of the Hungarian Academy of Sciences, 2020-2026, for endorsing these initiatives and supporting the publication of these works of genuine significance for the history of academia.

3. Conclusion

In this study, I have demonstrated that women researchers face disadvantages regarding two key conditions of scientific advancement: publication performance and the associated academic recognition. Although the presence of women in Hungarian academic life has steadily increased in recent decades, significant disparities persist at the highest levels of the academic hierarchy, particularly with respect to earning the Doctor of the Hungarian Academy of Sciences (DSc) degree and membership in the Academy. One likely reason for this is that the critical phases of a research career often coincide with the period of family formation and childbearing, which may lead to a temporary decline in publication output and professional presence. Systemic and cultural barriers, therefore, affect not merely individual careers but also the functioning of the scientific institutional system.

I have also shown the initiatives through which the Hungarian Academy of Sciences seeks to improve this situation. The programs of the Presidential Committee on Women in Science pursue

a dual objective: to help intensify the performance of women researchers while simultaneously enhancing their scientific visibility. Improvements in research conditions, the expansion of grant and fellowship schemes, and increased opportunities for publication and conference participation, may help ensure that the achievements of women researchers receive broader recognition. Equally important is the presentation of role models: the life trajectories of outstanding women scholars and scientists of the past not only fill missing chapters in the history of science and academia but also inspire younger generations of researchers.

Overall, I have argued that performance and visibility are mutually reinforcing factors: excellence can become truly effective within the academic community only if appropriate institutional and social frameworks ensure its recognition and acknowledgment. Supporting women researchers is therefore not merely a matter of equal opportunity, but a strategic imperative that advances science and scholarship as a whole.

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