


The Impact of a National Crisis on Academic Research Productivity: Experiences of Program and Department Heads in Israel

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Abstract

Objectives: The research examined the impact of a national crisis on the research output of academic program and department heads in Israel, investigating how these leaders functioned in the face of prolonged uncertainty and exploring whether their administrative role resulted in personal costs.

Methods: Data were drawn from interviews with 27 heads; then 133 heads answered a questionnaire.

Results: The findings revealed factors restricting research during the crisis: overload relating to students, overload relating to administration, family difficulties, and inaccessible research infrastructure. Some heads developed successful strategies to sustain their research during the crisis.

Conclusions and Implications: Critical insights into academic leaders' resilience and management strategies can help academic institutions address challenges to research production caused by crises such as disasters, wars, and pandemics.

Keywords: *research outputs, middle leading, academic managers, crisis, academic careers, academic publications*

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Introduction

A program or department head fulfills a vital and demanding function within the higher education system (Buller, 2012; Hotho, 2013; Tietjen-Smith et al., 2020). It is also, however, one of the most ambiguous and undefined roles in that system (Aitken & O'Carroll, 2020; Maddock, 2023). Program and department heads (henceforth heads) serve as crucial middle management figures, playing a pivotal role in maintaining the

functioning of academic institutions. Despite their significance, only limited research has investigated their diverse responsibilities and their productivity (Gmelch et al., 2017; Paranosis & Riveros, 2017; Reznik & Sazykina, 2017; Wald & Golding, 2020).

Producing research is a primary expectation of the heads' work. This extends beyond the expression of singular academic efforts and forms an integral part of their professional identity (Reznik & Sazykina, 2017) and remains their own lifetime achievement. Research production is one of the few outputs subject to institutional evaluation, and it is also valued highly in international assessments, distinguishing it from most other head outputs. The current article examines heads' experiences during a prolonged crisis—the COVID-19 pandemic—and the impact of those experiences on the management of their research output.

Research on middle management academic productivity is scarce, especially regarding heads' research capacity. Understanding the factors affecting department heads' research output can help leaders of academic institutions better prepare for future crises. A robust and research-active middle management can strengthen an institution's reputation, attracting both new students and productive staff researchers (Erkkilä & Piironen, 2020; Mintz, 2021). Institutional readiness for any potential crisis is a fundamental necessity, whether it be a crisis affecting an individual institution, a national crisis (economic, social, war- or natural-disaster-related), or a global crisis. By fortifying heads, institutions can enhance their resilience in times of crisis and elevate their professional standing and competitive advantages.

Although this article focuses on the COVID-19 pandemic, the research serves a broader purpose: an opportunity to investigate how heads functioned in the face of prolonged uncertainty. The crisis served as an exceptional "test case," in which it was possible to gain insights into these leaders' practices and perspectives, because it affected all academic institutions simultaneously, and all encountered similar challenges and constraints. Typically, during a crisis, it may be possible to examine the response within a single organization, but even then, potential interviewees are often reluctant to share their experiences due to concerns about exposing their organization's weaknesses, especially in real time. Even when multiple organizations have been affected by a similar crisis, such as an earthquake or tsunami, there have been limited studies, if any, that have focused on department and program heads. The unique opportunity to assess the performance of these leaders during a significant crisis that affected all academic institutions led to the willing participation in this study by heads from numerous institutions, comprising approximately one third of the heads in Israel. The findings offer valuable insights into their research, academic output, and other important aspects of leadership.

As noted above, there has been minimal research conducted on heads' responses during times of crisis. Most studies focusing on the COVID-19 crisis in higher education have emphasized the sudden transitions that were necessary, especially to remote learning, and the extent to which instructors adopted and continue to use internet platforms such as Zoom and Moodle (Bartolic et al., 2022; Mishra et al., 2020; Nunez et al., 2024; Pokhrel & Chhetri, 2021; Taamneh et al., 2023). Some studies have addressed the emotional challenges people experienced and challenges to students' well-being (Chiodaroli et al., 2024; Hebert et al., 2022; Lizier, 2023; Pownall et al., 2022; Rowan-Kenyon et al., 2022). Female researchers, particularly scientists with young children, reported decreased work hours during this period (Pebdani et al., 2023). The present study forged a new path by exploring how the crisis affected heads' research output.

The following research question guided this study: What are academic heads' perceptions regarding the impact of their experiences during a prolonged crisis on their research output? The article's applications extend beyond the COVID-19 pandemic crisis. Understanding the factors affecting research outputs can inform and may thereby strengthen academic institutions.

Literature Review

Heads' Academic Outputs and Responsibilities

Heads play a critical role in making significant decisions for their various departments (Carroll & Wolverton, 2004; Lizier, 2023; Maddock, 2023). They have a substantial impact on the efficiency and effectiveness of the organization (Gmelch et al., 2017; Wald & Golding, 2020). The outputs expected of an academic institution's heads can vary, depending on the institution's mission, goals, and priorities. In Israel, the heads' responsibilities for outputs can include any or all of the following.

Curriculum Development

Heads play a central role in designing and updating the curriculum for the academic programs offered within their department. This involves developing new courses, revising existing ones, and ensuring the curriculum aligns with the institution's educational goals and meets the needs of diverse students (Berdrow, 2010; Bobe & Kober, 2015).

Collaboration and Professional Networking to Promote Initiatives

Heads often collaborate with other academic units, academic staff, and administrators to enhance interdisciplinary programs and foster research partnerships (Halupa, 2016). They initiate and lead projects within the department, either independently or with the participation of external stakeholders, such as industry professionals or representatives from community organizations (Aitken & O'Carroll, 2020; Freeman et al., 2020).

Leadership and Administration

Heads lead their academic units. They oversee daily operations, set strategic goals, and ensure the unit functions efficiently. They also manage budgets, allocate resources, and make decisions about the program or department (Kekäle, 1999; Machovcová et al., 2023; Maddock, 2023).

Department/Program Management

Heads typically recruit, hire, and evaluate academic staff. They guide and support academics' professional development and may also be involved in tenure and promotion decisions (Buller, 2012; Wald & Golding, 2020).

Academic Quality Assurance

Heads are responsible for maintaining the academic quality and standards of the programs under their purview. This includes ensuring the programs meet accreditation requirements and align with the latest educational trends and practices (Bozeman et al., 2013; Saunders & Sin, 2015).

Student Advice and Support

Heads often counsel students within their programs. They assist students in academic planning and course selection, address any issues or concerns students may have regarding their academic progress, and create innovative offerings to meet student needs (Erkkilä & Piironen, 2020; Maddock, 2023; Taggart, 2015).

Assessment and Data Analysis

Heads may oversee the assessment of student learning outcomes, program effectiveness, and staff performance. This involves collecting and analyzing data to inform efforts for continuous improvement (Bozeman et al., 2013; A. Tucker, 1984).

Advocacy and Representation

Heads represent their academic unit within the institution, participating in meetings, committees, and discussions with other leaders. They advocate for funding, resources, and support that benefit the department's mission and goals (Halupa, 2016; Hodson, 2010), yet they have limited institutional authority (Kruse, 2022).

Conflict Resolution

Heads are often responsible for mediating conflicts between lecturers and/or students, overseeing the struggle between managerialism and collegiality within their department, and searching for solutions to academic and administrative issues, all while considering their personal values (Lizier, 2023; Taggart, 2015).

Research and Scholarly Activities

Although academic heads have prominent administrative duties and demanding managerial roles, academic institutions still expect them to engage in scholarly work, conducting research and publishing in their field (Gmelch, 2016; Machovcová et al., 2023; Wald & Golding, 2020).

Conducting Research While Serving as a Head

Successful research relies on the academic institution's organizational capabilities and the researchers' performances. The synergy of these elements depends on the heads' administrative competence.

To succeed as a researcher, a scholar needs personal drive, self-discipline, and inner motivation (Nicholson, 2019). Essential factors influencing researcher productivity include institutional support, reward systems, research funding, mentoring, assistance with obtaining outside grants, and access to information resources. When these key elements are addressed, researchers can serve as catalysts to boost research productivity, collaborating across disciplines, securing external funding, publishing in high-impact journals, engaging in applied research, and mentoring early-career scholars (Moses, 1985; Ocampo et al., 2022).

Academic institutions have a continuing responsibility to establish organizational conditions that foster a supportive environment for academic work (Browning et al., 2017; Khoo et al., 2021). Heads have a prominent role in creating a suitable research culture, including promoting a mentoring culture among their staff and interinstitutional collaboration with relevant communities that can increase research productivity (Ajjawi et al., 2018; Edgar & Geare, 2013; Hoang & Dang, 2022; Peterson et al., 2020). A stimulating and facilitative research environment, by maximizing the advantages it provides, can promote a variety of research achievements (B. P. Tucker & Tilt, 2019).

In understanding how academic heads navigate research during their tenure, it is important to recognize the broader assumptions and systemic expectations surrounding scholarly productivity and prestige. A widely held assumption is that an academic's scholarly output directly reflects their scientific prowess, a quality often thought to be associated with the prestige of the university where they earned their doctoral degree (Bedeian et al., 2010; Way et al., 2016). Academic staff at highly prestigious institutions generate a greater volume of scientific literature and garner more citations (Bland & Ruffin, 1992; Way et al., 2016). The productivity of early career academics, though, is shaped not only by the qualities of their work environment but also by their position within the academic system, the organizational culture, and its routines (Buller, 2012; Bystydzienski et al., 2017). Productivity is not solely dependent on the prestige of their doctoral training (Way et al., 2019). Furthermore, scholars have also described the Matthew Effect—a phenomenon whereby esteemed scientists receive significantly more recognition than their colleagues with lower prestige for similar intellectual accomplishments (Merton, 1968).

At many institutions, heads often hold temporary managerial positions for a predefined duration. Once this period concludes, they usually return to their roles as researchers and lecturers. Their primary career goal is to publish, while they must also juggle constant administrative responsibilities, because, as suggested earlier, their scholarly work is a fundamental component of their professional identity (Machovcová et al., 2019). Furthermore, institutions expect heads to continue to engage in knowledge production and actively publish research, if they wish to continue their academic development and rise up the academic ladder. They are judged as individuals by research output metrics (Blackmore, 2014; Reznik & Sazykina, 2017). Even on routine days, middle-level leaders grapple with the challenge of balancing their academic and leadership

responsibilities, often having limited time for research (Acker, 2014; Aitken & O'Carroll, 2020; Freeman et al., 2020; Machovcová et al., 2023). It is therefore crucial to understand how they managed their research efforts during an extended period of crisis.

Method

I conducted this research between July 2021 and January 2022. Study 1 (until November 2021) comprised 27 semi-structured interviews with heads; I stopped the interviews when I found repetition, indicating exhaustion of input. Next, Study 2 (November 2021 until January 2022) involved a modest complementary quantitative survey with another 113 heads.

The State of Israel is relatively small, and all its academic institutions are supervised by the Council for Higher Education, which publishes a comprehensive list of these institutions. Of the 339 academic heads working in all Israeli academic institutions, a criterion sample was formed by selecting interviewees complying with two criteria: (a) heads who had been appointed before the COVID-19 crisis and who were still serving as heads after the crisis and (b) heads representing different disciplines. These criteria were applied in Study 1 to select 27 interviewees, according to a convenience sample. All those who were asked to participate in an interview consented. For Study 2, I sent a personal request to all the remaining 312 heads in Israeli academia to participate in answering a questionnaire. One hundred thirteen heads agreed to complete the questionnaire. Examination of this sample found that the participants represented the different disciplines appropriately.

The interviews (Study 1) were conducted on the Zoom platform, using the method outlined by Taylor et al. (2016), with each interview lasting from 45 minutes to 1.5 hours. Sample questions for these interviews included: What characterized the research conducted by researchers in your program/department during the pandemic? Which topics were researched? What did you research during that period, and how was your research influenced by the circumstances?

In Study 1, 16 of the interviewees were heads from the social sciences; 4 were from the humanities, 4 from natural sciences and medicine, and 3 from exact sciences and engineering. This made it possible to examine potential differences across disciplines. Interviewees were almost equally split between men and women (15 women and 12 men) and ranged in age from 35 to 80 ($M = 53.2$, $SD = 8.55$). Nine were professors, and the other 18 were senior lecturers.

These interviews laid the groundwork for developing a modest questionnaire for Study 2, whose purpose was to investigate how these heads dealt with the crisis, what their research outcomes were, and whether these research outcomes were linked to their rank. The sample for Study 2 included 113 more heads from different academic institutions. Among them, 46% were women and 54% were men, with ages ranging from 30–80 ($M = 57.35$, $SD = 9.23$). The participants held various academic ranks: 49.6% were lecturers, 23.9% associate professors, and 26.5% full professors. The participants represented diverse academic disciplines, with 51% in social sciences, 14% in exact sciences and engineering, 13% in humanities, 9% in life sciences and medicine, and 13% in other disciplines (excluding law).

The heads' self-reports underwent quantitative analysis. Using this approach prompts the question: Why not measure the heads' publication volume to spot differences between pre- and post-crisis periods? We recognized that focusing solely on publication counts would overlook qualitative variations. Articles published at a given time might have been submitted much earlier, complicating the association with crisis-initiated research. Furthermore, assessing publications or even submissions a year or two post-crisis would risk losing contextual accuracy, as technical details become more complicated to recall.

Data Analysis

The interviews underwent analysis following the analytical framework outlined by Marshall and Rossman (2014), which encompasses data organization, category creation, and theme and pattern identification, as well as the exploration of hypotheses and category comparisons. To validate the findings from the qualitative methods, the questionnaire was designed in accordance with the protocol suggested by Greene et al. (1989). This questionnaire was intended not only to corroborate the qualitative research results but also to enhance and extend the insights gained from the qualitative study, reveal any paradoxes or contradictions, and broaden the scope of the investigation.

Results

The analysis of data from both studies revealed prominent themes related to the heads' research characteristics. These themes included challenges associated with a decline in research production, factors contributing to the deterioration of research productivity, and successful strategies employed by those who did manage to produce.

The heads interviewed in Study 1 described a clear picture. Most of them (21) expressed concerns that their research had been adversely affected, while a minority (6) explained that the crisis not only did not harm them, but it even boosted their research productivity. Gaining a deeper understanding of the challenges faced by heads was imperative to further identify those for whom the crisis was particularly challenging. The following results create a description of the phenomenon, combining data from the two studies. In the following quotations from the findings, interviewees are identified with pseudonyms to maintain their anonymity.

Productivity During the Prolonged Crisis

Many interviewees reported a significant decrease in their research productivity (19 out of 27 in Study 1), with some even temporarily halting their research. This decline in research output affected both the heads' own research and the progress of the research students they were supervising.

Damage to Personal Productivity

The difficulties stemming from the crisis encountered by researchers were varied and differed according to discipline. For example, Evelin (44, exact sciences) stated, "I had one study that was actually in advanced stages. I think it was like pressing a pause button for about a year until I returned to it ... because I was not emotionally motivated." Another woman, Tali (49, social sciences), described the phenomenon that occurred in her surroundings, saying, "COVID-19 stopped research completely. ... I was at zero research activity, and so were some of my colleagues. It is, of course, terribly personal. There was much less research than we usually know in the college."

The complaints about the "freezing" of research activity were not evenly distributed among the heads. Only 1 (of the 9) professors mentioned that research activity decreased. Of the 18 senior lecturers, 14 mentioned this phenomenon. Therefore, based on the clear voices of the interviewees, I hypothesized for Study 2 that heads with professorship (either full or associate) would be less affected in the number of article submissions by the crisis than would lecturers. To examine this hypothesis, I asked two questions:

1. How many articles did you submit on average annually before the pandemic?
2. How many articles did you submit on average annually during the pandemic?

I compared the results for both sectors (with/without professorships). The results showed that all three groups (senior lecturers, associate professors, and full professors) were indeed affected by the crisis. The ratio

was calculated for each group between the answer to the second question and the answer to the first. Table 1 shows the results.

Table 1. *Reduction in Submitted Articles*

Groups	Count	Articles before crisis	Articles during crisis	Sum	Average ratio	Variance
Full professor	28	3.679	3.411	25.175	.899107	.08924
Associate professor	27	2.944	2.333	23.28889	.862551	.260607
Lecturer	56	2.465	1.974	49.35	.88125	.525294

Analysis of these data is depicted in Table 2.

Table 2. *ANOVA of the Reduction*

Source of variation	SS	df	MS	F	p-value	F crit
Between groups	.018369	2	.009184	.02605	.974292	3.080387
Within groups	38.07641	108	.352559			
Total	38.09478	110				

The data in Table 2 clearly show that no evidence was found to support the lecturers’ claims that their research was reduced during the crisis. Lecturers were slightly less affected by the crisis than were associate professors.

During interviews, women claimed a more significant decline in their productivity and in that of their female colleagues compared to their male counterparts. For example, Sara (49, social science), stated,

I tried very hard, but the coronavirus completely consumed my time, so that I worked 24/7. I think it was especially severe for women—due to a lack of boundaries and difficult home-career balance. It’s always been this way, but with the Coronavirus, it’s ten times worse. ... In my program, there are two professors (men) who continued to work without a problem as if nothing had happened. One even published a book.

Nevertheless, in Study 2, there were no notable distinctions observed between the genders in terms of productivity ($t = 0.42$; $p = .678$; Cohen’s $d = 0.08$).

Productivity of Research Students

Typically, certain university heads guide students’ research for their doctoral programs and theses. Graduate students have limited flexibility, which is influenced by both their level of experience and the constraints imposed by the academic structure, designed to provide support and guidance during their academic journey. Several heads (6 of the 27 in Study 1) mentioned the delay of the doctoral students’ work. For example, Debby (49, social science) stated, “Two PhD students I know, who were already in the research phase after their proposals for their PhDs had been approved, had to start research on a different topic from zero.” Gil (49, natural science) explained why this sort of thing happened: “Some experiments were rendered futile due to the closures. Even within my own group, there were doctoral students who couldn’t attend, resulting in a complete halt to their research.”

Factors Affecting a Productivity Decrease

The heads mentioned four types of causes that made it challenging for them to concentrate on research during the crisis period: excessive workload related to student matters, excessive administrative responsibilities, family matters, and limited access to the research field.

Overload Related to Students

Interviewees described decreased research productivity resulting from their involvement in addressing students' concerns—18 of the 27 interviewees in Study 1, nearly all those reporting a decline, cited student-related issues as a reason. The range of issues that heads addressed was remarkable, encompassing anxieties, financial struggles, frustration with learning methods inappropriate for their routines, technical challenges, requests for more accessible assignment submissions, and instances of illness affecting students' family members. Tom (55, humanities) explained:

I put my personal research as a secondary priority because my commitment as the program head was first of all to the students. I made many phone calls and conducted a lot of WhatsApp correspondence with the students. The students immediately ran into difficulties. The difficulties included responsibilities in their family, but no less, the difficulty involved in sitting for hours in front of the Zoom. They expected their hardships to be considered. ... Some of them were nervous for objective reasons. They have children with whom they need to share the learning and teaching spaces. Some of them have spouses and are self-employed, and suddenly their business was frozen and they experienced a financial threat.

Following the heads' testimony in the interviews, it was hypothesized that the heads who experienced a decrease in submitting articles for publication did so because of the load involved in assisting students. Therefore, in the questionnaire, the heads were asked the following question: If there was a decrease in your production of research during the pandemic, to what extent was the burden of discourse with students the reason for this?

Indeed, a positive significant correlation was found between the number of submitted articles with the degree of the responses to the last question ($r = -.50, p \cong .000$). This indicates that the heads indeed saw the burden of discourse with students as a significant cause for the research production decrease.

Further analysis shows that heads with the rank of senior lecturer felt that the decrease in their research output was due to a greater load in the dialogue with the students ($M = 4.19$, in the range between 1 = to a very slight extent and 6 = to a very large extent; $SD = 1.63$), more so than those with the rank of associate professor ($M = 3.00, SD = 1.37$) and also more than those with the rank of full professor ($M = 2.88, SD = 1.36$). This difference between the groups proved to be significant ($F = 6.07, p = .004, W^2 = 0.13$).

Overload Related to Administrative Duties

The interviewees described a tumultuous situation involving new administrative requirements, where procedures that were once relevant became obsolete during the crisis and had to be altered (9 of the 27 in Study 1). It was necessary to mediate between students, instructors, and the administration. Sharon (59, social science) noted,

There was a continuous stream of phone calls and correspondence concerning many new aspects. Since everyone was primarily located in their own homes, we composed names and phone numbers lists to facilitate communications. We sent out messages to facilitate this process, which usually unfolds naturally over the year. Additionally, we had to ensure that practicing teachers, who now had an increased workload concerning their pupils, in addition to their studies, were appropriately compensated. These tasks demanded careful organization ... much mental effort on my part. I couldn't just let it be; it required continuous thought and proactive initiatives.

Following the interviewees' comments, the hypothesis arose that the administrative tasks detracted from department heads' research capabilities, particularly affecting those with less-established academic credentials. The questionnaire tested the correlation between the number of articles sent for publication and the heads' administrative burden. The heads were asked: If there was a decrease in your production of research during the pandemic, to what extent was the administrative burden the reason for this?

The correlation between the answers to the last question and the number of submitted articles was tested. It appeared that there was a distinct and strong negative correlation between the items ($r = -.55, p = .000$). The heads did indeed blame the extra administrative burden for the production decrease. Once again, further analysis shows a significant difference between lecturers ($M = 5.08, SD = 1.14$) and professors (associate: $M = 3.98, SD = 1.39$; full: $M = 3.96, SD = 1.28$).

Overload Related to Family

In the interviews, the heads noted that the time they had to devote to caring for their families came at the expense of their emotional energies and time that they could devote to research. Yaheli (54, humanities) stated,

The epidemic didn't just trouble the students. It's akin to assisting individuals coping with post-traumatic stress while personally experiencing the same situation. You also work as a therapist, and your family is filled with anxiety. The challenges at the outset were incredibly complicated. I consistently have to demonstrate my work, research, and publications. When will I find the time? The crisis has generated a significant workload and a great deal of frustration.

Miriam (43, social science) stated,

My ability to concentrate on research was limited. I have a young girl at home, the educational system didn't function. I had priorities, including the management of the program and my family. Writing an article requires a mental twist, and the feelings of overload that overwhelmed me did not allow me to achieve such a twist every day.

The heads' testimony in the interviews led to the hypothesis that heads who experienced a decrease in submitting articles for publication did so because they had to devote time and energy to family matters. The following question was asked: If there was a decrease in your production of research during the pandemic, to what extent was your lack of availability for research due to family duties?

This time, the correlation between the number of submitted articles was less dominant ($r = -.22, p \cong .000$). Again, heads with senior lecturer rank attributed their decline in research output to the need to direct their attention to their family ($M = 3.76, SD = 1.89$), more so than did associate professors ($M = 2.47, SD = 1.28$) or full professors ($M = 2.41, SD = 1.37$).

Inaccessibility of Research Infrastructure

The crisis entailed the shutdown of public institutions and restrictions on movement in streets and other public places, which, in turn, limited the heads' mobility, making it difficult for them to access research facilities. In some cases, independent researchers found ways to work around these restrictions. Many heads found it more difficult. Noa (48, humanities) explained, "I am researching the past, and I had a very serious difficulty because archives were closed. ... I cannot travel abroad to archives ... the COVID-19 virus has completely trapped me." Another head, Dalit, (44, natural science), stated, "As a biologist, my research was damaged. Until they opened the institution, and we were able to return physically, I needed a laboratory. I could not do research from home." Maya (50, social sciences) also described the inaccessibility of the facilities, noting, "I need mothers and children to come to the lab as subjects for observations. My research has not been renewed since the COVID-19 virus started. I still have not been able to bring one person to campus."

Successful Strategies

Some heads coped well with their research, despite the difficulties (6 out of 27). They felt that the crisis period offered an opportunity for creativity and growth, and they found their own path. George (51, engineering) stated,

I used to finish a class, close the Zoom, and on the screen below, I had something I had already been working on until the class started, something I was writing for my research. Suddenly there was a lot more private time for personal work, because when you are on campus, you talk and talk ... drink coffee and go to the cafeteria, and the day runs away. When you are at home, you only face the task.

Eli (55, humanities) had a similar response, saying,

The COVID-19 period allowed much more time for work. Contrastingly, there were no trips to work, there were closures, and we sat at home. What does a researcher do when he sits at home? He writes. For me, it made it easy to write, read, think outside the box.

Some heads managed to deal with the challenges creatively and searched for alternatives. Yael (49, social sciences) sought other avenues of research:

In the field of treatment, research was impacted. I had to seek alternative methods to address the shortage of participants and the reduced number of people visiting the laboratory. We became more engaged in studies involving questionnaire surveys and used equipment that allowed us to address cognitive issues remotely. Some of the studies were postponed, while for others, we discovered solutions and even identified new approaches to our research that we are publishing now.

Some heads saw the phenomenon of the epidemic, which occurred around the world, as an opportunity to create new research that was not planned. Roni (50, social sciences) reported,

Out of curiosity and concern for colleagues, there was interest in what was happening in other countries. This led to collaborations that resulted in comparative research in my field and in the book we are now starting to write together, which focuses on the crisis caused by the pandemic.

Another head focused on scholastic writing that did not rely on new empirical data. Jeaki (54, social sciences) shared, "I wrote a theoretical article and completed a book I had started earlier. I have no problem engaging in research, even without empirical data. There's always a lot to do when time allows."

Following the heads' testimony in the interviews about their success, the questionnaire asked them to complete the following: If there was an increase in your research outputs during the COVID-19 period, please indicate the main reasons for this. Of the respondents, 24 (21.23%) briefly answered the question. The responses, which were concise, pointed to an increase in personal time and focus on research (18 respondents), partly due to time saved from not commuting to work and avoiding distractions, such as informal conversations in hallways. Two respondents mentioned that not traveling to conferences also saved them time. Additionally, 5 respondents indicated that they developed an interest in the pandemic and its consequences as a research topic, while 8 respondents noted that they switched to different methods, such as meta-analysis, writing books, or publishing articles based on materials they had collected before the pandemic but had not previously had time to work on.

Discussion

The study focused on a major challenge faced by heads in the academy: maintaining research productivity during their term of office, which has long-term implications and is easily measurable through their research output (Maddock, 2023). The respondents shared their individual experiences with performing research during an extended crisis. The first theme that emerged from the findings focused on productivity—a reduction in heads' personal research output and a decrease in research output by doctoral students the heads

supervised. The second theme revealed the factors that hindered research productivity: workloads increased by the need to relate to students' difficulties and meet increased administrative responsibilities, family obligations, and restricted access to research facilities. The third theme disclosed successful strategies: some heads sought new opportunities or alternative methods and successfully maintained their research productivity during the crisis.

In their interviews, the heads testified that research is a crucial aspect of their professional lives (Machovcová et al., 2019). Heads play a unique role in academia, shouldering duties that go beyond their personal aspirations and institutional expectations for research production. However, they frequently confront challenges due to inadequate training and resources (Aziz et al., 2005; Freeman et al., 2020), as well as limited leadership skills (Carroll & Wolverton, 2004). This was reflected in their management of the dramatic long-term crisis of COVID-19, which involved significant uncertainty. The need to invest extra effort due to the crisis robbed them of energy that they otherwise would have invested in research.

In the qualitative part of the study, heads with the rank of senior lecturer complained more than their professor colleagues about damage to their productivity, but the quantitative survey did not support this finding. This could be because heads who are not professors feel more pressure regarding research output, because their academic position in the organization is not yet established, and they are interested in advancing to the rank of professor. In addition, they must make a larger effort because they are perhaps not as skilled as the professors and are less connected, so the load they experience brings them closer to a subjective breaking point. Professors benefit from superior publishing skills and broader networks and show less enthusiasm to lead management processes (Pekkola et al., 2018). They find maintaining research continuity easier, due to greater access to funding, laboratory space, and support from graduate students.

Unlike professors, senior lecturers—who are striving to establish their place in academia—tended to prioritize administrative tasks during the crisis period. They reported that they focused more on student interactions, thus relegating research to a lower priority than the professors did. This is interesting, considering that a universally agreed-upon criterion for academic promotion is the number of academic papers published in highly ranked journals (Hammarfelt & Rushforth, 2017; Lim et al., 2023; Pontika et al., 2022). Other service activities related to research, leadership, mentorship, collegiality, and evaluation are deemed less crucial in promotion decisions than publication volume, attaining funding, and journal prestige (Ross-Hellauer et al., 2023).

The heads who experienced success in increasing their productivity during the prolonged crisis were adept at efficiently allocating tasks, quickly shifting between administrative and research responsibilities, and capitalizing on the time saved due to reduced travel (both to their academic institutions and other venues). Their ability to be flexible in research and writing, coupled with adeptness in alternating work styles, contributed to their increased output.

The prolonged crisis left the heads to their own devices. Their research, which is an essential output for their professional progression, is required by their academic institutions, since it contributes to the institution's prestige and attracts students, as well as skilled research staff (Erkkilä & Piironen, 2020; Mintz, 2021). It has, however, often been taken for granted or was not the top priority of the institution. It is possible that the erosion of academic autonomy manifested in institutional and extra-institutional intervention also affects researchers (Macfarlane et al., 2024), especially those whose status is insufficiently established. Heads who cultivated research resilience did so by finding individual ways to conduct their research amidst the challenging crisis.

A resilience model, applicable for both individuals and institutions, can help higher education institutions adapt to crises without disrupting core activities (Nandy et al., 2021). The resilience of an institution refers to its ability to adapt and thrive amid sudden, unexpected environmental changes, encompassing aspects such as institutional, peer, and student support (Liu & Hallinger, 2024; Raghunathan et al., 2022). Academic

institutions have the potential to support and improve the research capabilities of their leaders. Career empowerment fosters resilience, which offers a significant benefit to organizations (Grabarski & Mouratidou, 2023). The heads' insights indicated that their academic institutions focused primarily on survival. The institutions did not concern themselves with the research resilience of their middle management heads, even though this group represents a potential significant cornerstone for each institution.

Limitations

The primary limitation of this study is that heads reported their subjective experiences in both studies. Future research would benefit from incorporating objective measures that can quantify and assess the number of publications submitted and their respective rankings for each scholar, although this would be a complex endeavor.

The research was conducted in Israel, a country that rapidly transitioned to online education during the pandemic. Israel's early availability of vaccines allowed students to resume in-person classes earlier than in many other countries. Future studies could fruitfully explore how educational institutions in various other countries, each with its own governmental strategy during the pandemic, adapted to these challenges.

Conclusions

During crisis periods, the research work of heads at academic institutions is at risk of being compromised. Such crises often bring about an increased workload, due to additional organizational demands, which diverts heads' attention towards administrative duties. Personal research—while undeniably beneficial to their careers—was viewed by heads, especially those who were not professors, as something that could be sacrificed during a crisis. They gave priority to organizational needs or outputs they were expected to fulfil.

Academic decision-makers should support heads during organizational crises, ensuring heads do not perceive their resulting reduced research efforts as personal failures. When time and effort typically invested in research output is redirected during times of crisis to meet organizational needs that help preserve the academic institution, this contribution should be acknowledged and valued. Supportive decision-makers within institutions can leverage the opportunity offered by the crisis to invest in efforts to retain staff, recruit talented staff, and foster a research environment that consistently generates academic output, despite administrative workload and restrictions. Such an investment is a win-win: worthwhile not only for the institution, but also for the middle managers who need it.

Practical Implications

Attention should be given to supporting heads who are not professors as key players in the institution's development, especially during crises. Acknowledging the positive influence of middle-level leaders on an institution's reputation is simply good practice, from a cost-effectiveness standpoint alone.

Academic institutions can establish support systems to mitigate negative impacts on heads, gaining a competitive edge both nationally and internationally, which is especially significant when other institutions worldwide are also affected by a crisis. Support can include understanding the heads' needs, creating a research-focused forum of heads with the aid of senior mentors, offering secretarial services tailored to heads' administrative or research requirements, actively involving heads in research projects, and increasing the research budget.

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