

UTILIZATION OF LEISURE TIME AND ACADEMIC CAREERS: A MULTIDISCIPLINARY GENDER PERSPECTIVE

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Abstract

This research focuses on the advancement of women in academia from an interdisciplinary perspective. It examines the leisure activities of faculty from various departments from a gender-based point of view, with regard to the association between time devoted to research and teaching and time devoted to family and social life. In addition, other possible correlations between academic output (number of articles per year, number of conferences attended, research grants submitted, teaching feedback scores) and personal background data (marital status, size of family, age, country of birth, and ethnicity) were also explored. Many studies have dealt with the "glass ceiling" encountered by women in academia. The following case study is the first to explore performance measures of personnel at an academic institution in Israel from a gender perspective, in light of their leisure choices. The point of departure guiding the researchers was that the representation of women in academic personnel, including their research and teaching output, has a significance and influence on the system of higher education and, both in Israel and internationally. The research findings might help identify and develop interventions for utilization of time, with the goal of increasing academic output.

Keywords: academic careers, academic output, gender perspective, leisure activities, social life.

Introduction

Examination of the leisure activities of personnel is a unique endeavor, as their academic work is not limited in time and space. Academic research activity can take place at any time and place, putting to the test customary definitions of leisure – what is leisure time and what is work time – and whether they can be separated. Academic personnel are required to demonstrate constant academic "productivity", including research, teaching, and contribution to society. There are many testimonies to the differences between men and women with regard to developing an academic career. The question is whether and to what degree does a gender-based difference exist in academia with regard to utilizing leisure time, and whether this difference is associated with advancement within the academic world.

For this purpose, characteristics of leisure time utilization by personnel (men and women) from various departments, self-efficacy of personnel, as well as the satisfaction of personnel with their academic rank and quality of life, were explored.

The research literature refers to:

1. Work time and leisure activities
2. Challenging and no challenging leisure activities – Utilization of leisure time by

academic personnel in higher education (LaPan, Hodge, Peroff, & Henderson, 2013). A distinction was found between leisure activities associated with the lecturer's work and personal leisure activities (Milgram & Hong, 1994).

3. Quality of academic work by gender
4. Disparities and inequality of men and women in academia

Work Time and Leisure Activities

The concept of leisure is a very complex concept on which there is no research consensus. Leisure has no single definition that is accepted by the researchers. There are five basic approaches to leisure:

1. *The classical-traditional humanistic conception* that refers to leisure as reflecting the state of existence or of one's soul. This conception includes the approach that perceives leisure as a means of maintaining Life (Davidovitch & Soen, 2016).
2. *The sociological conception* that refers to work as a central part of human life and to leisure as its antithesis, because it is undertaken at will and voluntarily (Davidovitch & Soen, 2016).
3. *The moral conception* examines leisure on the following continuums: movement – rest, isolation – sociality, and recreation – personal growth and enhancement.
4. *The extrinsic approach* to leisure speaks of the introduction of predetermined leisure values. Accordingly, leisure activities are aimed at benefiting society (Gerniak, 1995).
5. *The intrinsic approach, which is the focus of the current study*, centers on the individual, who assesses leisure options and chooses which leisure values to embrace. Leisure as a means of self-fulfillment relates to leisure as an experience. In this approach, leisure is defined as a situation in which one chooses an activity freely based on inner commitment and motivation. According to this approach, the psychological and social meanings of various leisure activities for the individual should be analyzed (Katz et al., 1992).

Challenging and Not Challenging Leisure Activities

Milgram (1993) distinguished between challenging and not challenging leisure activities: Challenging leisure activities (such as computer programming, conducting science experiments, composing music, writing poetry, leading social initiatives to promote social change, etc.) are activities in which one engages actively, enthusiastically. These are intrinsically motivated actions that normally require a high level of involvement and effort. Nevertheless, a challenging activity can be creative or non-creative. The most challenging and creative leisure activity is recognized as having the highest standards by virtue of the creative products it generates. For instance, leisure activities in teaching are aimed at enriching the process of teaching students; they are not required of the lecturer in order to meet his or her work obligations, rather an addition that requires time and effort, with the aim of personally improving instruction. These are challenging activities that require special effort as part of the teaching role. Challenging professional academic activities are comprised of several types of endeavors, such as writing papers, research, meeting with colleagues, scientific reading, membership on a committee, reviewing papers, and developing tests (Henderson, Harrolle, Rich, & Moretz, 2012).

Personal leisure activities are not within the professional academic sphere and are performed at home or elsewhere in varied areas such as: arts, outings, parents' committee, creative writing, home renovation, listening to music, correspondence, gardening, meditation, playing music, reading, cooking, activity with grandchildren, sports, crossword puzzles, playing

with children, teaching children, etc. (Milgram & Hong, 1994). Leisure activities are perceived in many studies as contributing to improving one's quality of life (Brajsa-Zganec, Merkas, & Sverko, 2011; Nawijn & Veenhoven, 2011). Professional achievements and advancement in academia have their own contribution to academic personnel's quality of life, bringing out the need to examine the association between these two areas. In light of the known discrepancy between the advancement of women and men in academia (LaPan, Hodge, Peroff, & Henderson, 2013), and in light of the differences between women's and men's preferences with regard to utilization of leisure and recreation (Brajsa-Zganec, Merkas, & Sverko, 2011), examination of the association between the two areas from a gender perspective begs attention.

Gender-based Performance of Academic Work

A previous study on the performance of academic personnel from a gender perspective, examined the evaluation of research and teaching output in the system of higher education from a gender perspective (Sinuany-Stern & Davidovich, 2014), while focusing on a case study, with the purpose of exploring the associations between personal characteristics (gender, age, seniority, and country of birth) and characteristics of their academic occupation (rank and faculty), and between the achievements of personnel in research and teaching (score on excellence compensation and feedback score). Another study (Sinuany-Stern & Davidovich, 2007) examined performance measures over one year. The main finding of the latter study is a lack of significant correlations between excellence in research activities and gender. Then again, significant measures were found between excellence in all teaching measures, as manifested in student feedbacks, and gender. In all teaching measures in the feedback, evaluations awarded to women were higher than evaluations awarded to men. In addition, men had a statistically significant advantage in the criteria for excellence compensation in the topics studied. The percentage of men in high ranks was also found to be higher than that of women.

The Disparity and Inequality between the Achievements of Men and Women in Academia

The literature review on the subject deals with the differences, disparity, and inequality between the achievements of men and women in academia. Many studies, as well as reports submitted to the Israeli Council for Higher Education (CHE), indicate a problematic state of affairs in this area.

On 23 February 2011, the CHE's Planning and Budgeting Committee (PBC) appointed a team to examine the state of women on the academic staff of institutions of higher education, which made the following recommendations (<http://lang.che.org.il/?p=41987>):

- The team is of the opinion that promoting gender equality in institutions of higher education is a foremost goal – both for reasons of justice and fairness and for reasons centering on the advancement of academic excellence per se.
- After examining the available data, all members of the team agree as to the evaluation of the current situation in higher education:
 - A. Women study at institutions of higher education in Israel and elsewhere and attain excellent achievements, and are represented by an average proportion of more than 50% of all PhD graduates at institutions of higher education in Israel.
 - B. The proportion of women gradually diminishes the higher up one proceeds on the academic ladder, with their average proportion among the highest rank of Full Professor only approximately 15% at present.
 - C. Women cope with unique barriers during their academic advancement – barriers related to the need to combine between family and career.

- D. The team's recommendations are directed at dealing with the technical, social, and cultural barriers without compromising on high achievements and scientific excellence.

The Planning and Budgeting Committee (PBC) team on the state of women (as stated above) received the impression that women cope with unique difficulties in their academic advancement at several critical stages, and recommended accordingly (<http://lang.che.org.il/?p=41987>):

- A. Recruitment stage – The institutions must take proactive steps to locate suitable female candidates. Since the demand for a post-doctorate abroad constitutes a specific barrier (due to sociocultural and economic factors that make it hard for women to spend time overseas), with the effect of discriminating against many excellent female candidates to begin with, there is room to examine the granting of enlarged post-doctorate scholarships to women raising a family, as well as alternative domestic post-doctorate positions.
- B. Preservation and promotion stage – Young women who give birth throughout the critical period prior to receiving tenure encounter special challenges that put them at a disadvantage versus men. It is necessary to create a physical infrastructure as well as a system of rules that will facilitate a balance between academic demands and a family life and raising children during this period.
- C. Structural aspects – Institutions of higher education must embrace arrangements that will ensure the integration of women in their institutions, including within their academic committees, managing bodies, and senior management positions in academia.
- D. Budgetary aspects – It is recommended that the PBC consider how to assist the institutions in attaining goals involving advancing values of gender equality.

The significance of dealing with this issue is particularly evident at present, both in light of existing predictions for considerable retirement proportions by senior academic personnel and in light of the goals set by the PBC as part of the five-year plan to increase the acceptance of young staff members and to improve the ratio between the average number of students and personnel. Considering the current relative proportion of women among academic staff at entrance level (30%), it appears that a goal of 40-45% women among all those accepted to the academic staff of institutions of higher education in Israel is in order.

In the research literature, no studies were found to deal with the effect of utilizing leisure time on one's academic career, from a gender and interdisciplinary respect. From this respect, the current research is innovative, and its results might contribute to shaping policy for the advancement of women in Israel: identifying and developing effective interventions for utilizing time, with the purpose of increasing women's academic output.

This research explores structural obstacles and barriers to the advancement of women in academia, while observing a case study of an academic institution. The research takes an interdisciplinary perspective, with reference to factors such as "utilization of spare time." academic output (in research and teaching), self-efficacy, and quality of life. The research examines the leisure activities of personnel in different departments from a gender-interdisciplinary perspective and with reference to the association between time devoted to research and teaching and time devoted to family and social life. Furthermore, possible associations with academic output (such as number of articles published annually, number of conferences attended, research grants submitted, feedback scores for teaching) and personal background data (such as marital status, size of family, age, country of birth, and ethnicity) were also examined.

Research Questions

1. Are there ethical-cultural obstacles and barriers to the advancement of women in academia, and to what degree?
2. Are there cultural obstacles and barriers to the academic output of women in academia, and to what degree?
3. Are women in academia discriminated against with regard to their professional advancement, and to what degree?
4. Is there an association between barriers and obstacles and the study discipline, and to what degree?
5. Is there an association between gender and perceived self-efficacy, and to what degree?
6. Is there a gender-based association between characteristics of utilizing leisure time and job satisfaction, and to what degree?

Methodology of Research

General Background

The current research examines the time utilization of personnel in the various disciplines, men and women, with regard to their priorities as to leisure time, while observing a case study of Ariel University. The research is the first to examine the identification of structural obstacles and barriers to the advancement of women in academia, from the perspective of time utilization and academic output (in research and teaching), from an interdisciplinary point of view – and the proposal of solutions to these barriers.

The gender effect of leisure activities of personnel at institutions of higher education is a unique topic – precisely because the time limits of personnel's work are not predetermined. Nevertheless, the demanding aspects of academic work, work that is under constant review, puts to the test the concept of leisure among this specific population, whose members are required to show constant academic "productivity", including research, teaching, and contribution to society.

The current research examines the association between academic achievements of senior personnel and characteristics of utilizing leisure time, perceived self-efficacy, as well as the staff's satisfaction with their academic rank and their quality of life. A gender-based and multidisciplinary comparison was conducted.

Sample Selection

A request was sent to all senior academic personnel at the institution (approximately 360). Ninety-two responded, including 50 women and 42 men.

All academic personnel were asked to participate in a research on: utilization of leisure time and academic career – a gender and interdisciplinary perspective. The explanation provided was that each research participant would have an identification code that would be used to collect individual information. A master list of participants' names and identification numbers would be kept by the researchers and would be known only to them. No names would appear on the questionnaires. Use of answers to the questionnaires would be solely on a research-group basis and not on an individual basis. For purposes of the research details of the participants were also obtained from the university databases. This material as well was not passed on to anyone. The explanation provided was that the research findings would not be given to anyone at the university and that their complete confidentiality is assured.

In the first stage, preliminary tests were held to examine possible gender differences in the background variables. Differences in the variables of age, number of children, and number of grandchildren, were examined with a t-test for independent samples. Furthermore, gender-based differences in marital status were examined with a Chi-square test of independence.

The preliminary tests found a difference in the number of children by gender [$t(98)=2.27$, $p<.05$], such that the mean number of children for women ($M=3.13$, $SD=1.39$) was larger than for men ($M=2.51$, $SD=1.35$). No gender-based differences were found in the other background variables in the current research. In light of these findings, the number of children was controlled for in the tests held to examine gender-based differences in the research variables.

Table 1 below presents the descriptive statistics of the research variables.

Table 1. Means and standard deviations of the research variables.

Subscale	Item	M	SD
1	1-Watches television, DVDs, videos	3.73	1.21
	2-Reads books	3.46	1.26
	3-Attends cultural events (concerts, theatre, exhibitions, sports events)	2.22	0.59
	4-Participates in activities related to my teaching/student supervision	4.43	0.89
	5-Reads printed or electronic daily newspapers	3.97	1.21
	6-Spends time with relatives and/or friends	3.30	0.79
	7-Listens to music / radio programs / active in the music domain	3.88	1.15
	8-Takes part in physical activities, such as sports, exercise, walking	3.47	1.23
	9-Engages in research	4.32	0.96
	10-Engages in crafts (for example: needle, wood) and/or is a collector	1.49	0.82
	11-Spends time on the computer / internet / i-phone, unrelated to work	4.21	1.09
	12-Has a hobby: gardening and ornamental plants, cooking	3.09	1.57
	13-Fulfills family obligations such as: shopping, caring for children, grandchildren, etc.	4.08	1.21
	14-Goes on trips in Israel or abroad	2.80	1.23
	15-Does volunteer work	1.87	0.63
2	Enjoying leisure activities with other people	4.58	0.54
3	1-Time for paid work	2.81	1.03
	2-Time for doing housework	3.01	1.16
	3-Time with the family	4.12	0.76
	4-Time for leisure activities	4.16	0.83
	5-Time for research	4.21	0.87
	6-Time for students	2.85	0.87
	7-Time for academic administration	2.24	1.05
5	1-Lack of facilities in the vicinity	1.17	0.48
	2-Lack of money	1.56	0.81
	3-Personal health, age, or functional disability	1.12	0.39
	4- Need to care for someone (children, grandchildren, elderly person in the family)	2.21	1.08
	5- Lack of time	3.07	1.00
8	Self-efficacy	34.33	4.24
9	Job satisfaction	3.56	0.42

Instrument and Procedures

Research tools:

- A cross-sectional questionnaire based on information obtained from records (details of academic rank and academic achievements)
- Individual questionnaires (leisure habits, quality of life, and perceived self-efficacy).

Over the years, many research findings provided strong evidence of the TAAI's validity (Milgram, 1983, 1987, 1990, 1991, 1993b). Two particularly large longitudinal studies provided impressive evidence indicating the validity of the TAAI questionnaire. One longitudinal research followed 12th grade graduates characterized by a wide range of intellectual abilities over 18 years (Hong & Milgram, 1994). The second research took place over 13 years and followed a group of young people with high intellectual abilities selected from all Israeli high school students for the Talpiot project (an elite military-academic program for training technological-operative leadership in the IDF; Milgram, 1989). The questionnaire was expanded in several studies to include higher education (Davidovitch & Milgram, 2006; Davidovitch & Milgram, 2010; Casakin, Davidovitch, & Milgram, 2010).

Data Analysis

The questionnaire in the current research was designed based on the Tel Aviv Activities and Accomplishments Inventory (TAAI). The TAAI (Milgram, 1979, 1983, 1989, 1990, 1991) is a questionnaire intended to evaluate challenging and no challenging leisure activities in a large age range in various areas. The TAAI was translated from Hebrew into 5 other languages, including English, and has been used for different purposes in many countries (Milgram, Dunn, & Price, 1993b). The questionnaire was administered to young children over age 3 (Hong & Milgram, 1991), to teenagers (Milgram & Hong, 1994), and to young adults (Milgram & Feldman, 1979).

The subscales and reliability:

Subscale 1 – On leisure activities: $\alpha=.62$

Subscale 2 – Enjoying leisure activities with other people: $\alpha=.77$

Subscale 3 – Devoting time to leisure: $\alpha=.45$

Subscale 5 – Barriers to leisure activities: $\alpha=.44$

Subscale 8 – Self-efficacy: $\alpha=.82$

Subscale 9 – Job satisfaction: $\alpha=.84$

Results of Research

Ethical-Cultural Obstacles and Barriers to the Advancement of Women in Academia

Five one-way ANCOVAs were performed, while controlling for the variable of number of participants. The table shows that gender-based differences were found in the perception of lack of money as a barrier to engaging in desired activities during one's leisure time, such that women more than men perceived lack of money as a barrier. No gender differences were found in the rest of the barriers (Table 2).

Table 2. Findings of analyses of covariance held for gender differences in perceived barriers to utilization of leisure time for desired activities.

Variable	Female		Male		F	η^2
	M	SD	M	SD		
Lack of facilities in the vicinity	1.16	0.51	1.19	0.45	0.11	.001
Lack of money	1.71	0.94	1.40	0.62	4.61*	.047
Personal health/age/functional disability	1.08	0.33	1.18	0.44	1.61	.017
Need to care for someone	2.25	1.12	2.20	1.02	0.10	.001
Lack of time	3.15	1.05	2.98	0.95	0.20	.002

* $p < .05$

Ethical-Cultural Obstacles and Barriers to the Academic Output of Women in Academia, in Research and Teaching

Pearson correlations were calculated between barrier variables and variables of academic output among men and women separately (Table 3). The findings show a negative correlation among women between perceived lack of time as a barrier and the number of articles in Hebrew in the Haifa Index, such that the higher the perceived lack of time as a barrier the lower the number of articles. Furthermore, a positive correlation was found among women between the perceived need to care for someone as a barrier and the score on the teaching feedback, such that the higher the perceived need to care for someone as a barrier, the higher the score on the teaching feedback. In contrast, these correlations were not found significant among men. However, among men a positive correlation was found between perceived lack of facilities in the vicinity and the number of articles and citations, such that the higher the perceived barrier the higher the number of articles and citations. These correlations were not found among women (Table 3).

Table 3. Pearson correlations between barrier variables and academic output by gender.

	Number of articles		Number of citations		Number of articles in Hebrew in the Haifa Index		Teaching feedback score	
Lack of facilities in the vicinity	-.01	(.47**)	-.05	(.57***)	.02	(.05)	-.17	(-.13)
Lack of money	-.24	(.02)	-.20	(-.06)	-.04	(-.10)	.20	(-.07)
Personal health /age / functional disability	-.01	(-.01)	.01	(-.09)	-.06	(.02)	-.08	(.08)
Need to care for someone	-.20	(.10)	-.13	(-.13)	-.18	(-.01)	.33*	(.07)
Lack of time	-.24	(.12)	-.22	(.13)	-.36*	(.12)	.07	(-.09)

Note. (Males)

* $p < .05$ ** $p < .01$ *** $p < .001$

Discrimination against Women in Academia with Regard to Their Professional Advancement

A chi-square test was conducted with the variables gender, rank, tenure (none/yes), academic role (none/yes), and perceived gender-based discrimination against women in academia (none/yes). The analyses found gender-based differences in tenure, such that the

proportion of tenure among women (28.0%) is lower than among men (54.8%). Moreover, the proportion of women (55.0%) who feel that women are discriminated against in academia based on gender is higher than the proportion of men (23.1%). In contrast, no gender differences were found in rank and academic role (Table 4).

Table 4. Distribution of variables of professional advancement in academia by gender.

Variable	Female		Male		χ^2
	N	%	N	%	
Academic rank					4.42
Teaching assistant/teacher/senior teacher	14	27.5	5	11.9	
Lecturer/senior lecturer/expert lecturer/expert senior lecturer	27	52.9	23	54.8	
Associate professor/expert associate professor/full professor	10	19.6	14	33.3	
Tenure					6.80**
None	36	72.0	19	45.2	
Yes	14	28.0	23	54.8	
Academic role					2.06
None	37	74.0	37	86.0	
Yes	13	26.0	6	14.0	
Perceived discrimination					9.44**
None	12	30.0	24	61.5	
Yes	22	55.0	9	23.1	
Don't know	6	15.0	6	15.4	

** $p < .01$

Association between Barriers and Obstacles and Study Disciplines (Department)

Five one-way analyses of variance were conducted, where the independent variable was the department and the dependent variables were perceived barriers. The analyses found no differences in the variables of perceived barriers by department (Table 5).

Table 5: Analysis of variance findings regarding differences in barriers by department.

Barriers	Social Sciences and Humanities		Architecture and Engineering		Health		Natural Sciences		F
	M	SD	M	SD	M	SD	M	SD	
Lack of facilities in the vicinity	1.26	.67	1.08	.28	1.05	.23	1.11	.32	1.08
Lack of money	1.76	.95	1.50	.94	1.26	.56	1.37	.50	1.96
Personal health/ age/functional disability	1.08	.28	1.14	.36	1.00	.00	1.11	.46	0.65
Need to care for someone	2.34	1.17	1.93	.80	2.16	.21	2.42	1.07	0.69
Lack of time	3.16	1.08	3.07	.80	2.84	.12	3.26	.87	0.63

Association between Gender and the Time Resource

An analysis of covariance in which the independent variable was gender, the dependent variable was enjoying activities with people, and the controlled variable was the number of children, showed no significant correlation between the variables [$F(1,97)=0.64, p>.05$], i.e., no difference was found between the mean for pleasure among women ($M=4.61, SD=.52$) and among men ($M=4.55, SD=.56$).

In addition, a Mann-Whitney test was held to examine the gender differences in the variable of utilizing vacation days, which generated significant findings [$Z=2.91, p<.01$]. Namely, the number of vacation days taken by women ($M=2.78, Mdn=3.00, SD=1.08$) was found to be higher than those taken by men ($M=2.10, Mdn=2.00, SD=1.10$).

No gender differences were found in the items of Subscale 1.

Subscale 3 – men more than women would like to devote more time to "paid work" and "doing housework". In contrast, women would like to devote more time to "leisure activities".

Association between Gender and Perceived Self-Efficacy

An analysis of covariance was held, with the independent variable being gender, the dependent variable perceived self-efficacy, and the controlled-for variable number of children. The analysis found no association between the variables [$F(1,97)=0.89, p>.05$], i.e., no difference was found between the mean for efficacy among women ($M=34.56, SD=3.89$) and among men ($M=33.95, SD=4.59$).

Association between Characteristics of Utilizing Leisure Time and Job Satisfaction in a Gender Context

An analysis of covariance, with the independent variable being gender, the dependent variable job satisfaction, controlled for number of children, found no association between the variables [$F(1,97)=0.12, p>.05$], i.e., no difference was found between the mean for job satisfaction among women ($M=3.53, SD=.43$) and among men ($M=3.58, SD=.42$).

In addition to the research questions, several other tests were held in order to check for associations between variables related to research, teaching, and job satisfaction. Pearson correlations were calculated for each group separately, in order to check for the existence of differences between the groups in these correlations. The significance of the differences was examined using Fisher's z-analyses.

With regard to research, a significant difference was found in the association between perceived lack of time as a barrier and the number of peer-reviewed articles published, $Z=-2.28, p<.05$, such that while among women a negative correlation was found between the variables ($r=-.36, p<.05$), among men no correlation was found between these variables, $r=.12, p>.05$.

Regarding teaching, significant differences were found with regard to the associations between wish for more time with the family, wish for more time for academic administration, the number of vacation days, and the feedback score ($p<.05$ for all the differences). Namely, while among women no association was found between time with the family and the feedback score, among men a significant negative association was found between the variables. Moreover, while among women negative correlations were found between time for academic administration and number of vacation days and feedback score, among men no association was found between the variables. In addition, although no significant difference was found between the groups with regard to the association between wish for more time to do housework and the feedback score ($Z=-0.93, p>.05$), a correlation test shows that while among women a negative correlation was found between the variables, among men no correlation was found between these variables (Table 6).

Table 6. Pearson correlations between desired activities and number of vacation days and between the feedback score.

Variable	Housework	Family	Academic administration	Vacation days
Feedback score	(.10) [-.30*]	(-.36*) [.20]	(.14) [-.34*]	(.04) [-.40**]

Note. [women] (men)

* $p < .05$ ** $p < .01$

With regard to job satisfaction, significant differences were found in the associations between the frequency of filling family obligations in one's leisure time, desire for more time to do housework, and lack of money as a barrier to utilization of leisure time for desired activities, and between job satisfaction ($p < .05$ for all the differences). Moreover, while among women negative associations were found between time for academic administration and number of vacation days and between the feedback score, among men no association was found between the variables. Furthermore, no significant differences were found between the groups with regard to associations between the frequency of engaging in activities related to teaching in one's leisure time, the frequency of engaging in research in one's leisure time, and the degree of self-efficacy, and between job satisfaction ($p < .05$ for all the differences), however an examination of correlations showed that while among women positive correlations were found between the variables, among men no correlations were found between the frequency of engaging in activities related to teaching in one's leisure time and the degree of efficacy and between job satisfaction (Table 7).

Table 7. Pearson correlations between various research variables.

Variable	Activities related to teaching	Research	Family obligations	Housework	Lack of money	Efficacy
Job satisfaction	(.15) [.47***]	(.31*) [.35*]	(.05) [.43***]	(.22) [-.40**]	(.19) [-.51***]	(.01) [.29*]

Note. [Women] (Men)

* $p < .05$ ** $p < .01$ *** $p < .001$

Discussion

In view of the significant impact of women's representation in the faculty of academic institutions, and their research and teaching output, this research focuses on the advancement of women in academia from an interdisciplinary perspective. Many studies have dealt with the glass ceiling encountered by women in academia, but the research reported here is the first to explore performance measures of faculty in an academic institution in Israel by gender and leisure choices. The research findings may help identify and develop interventions to improve female faculty members' utilization of time, with the goal of increasing their academic output and ultimately affecting opportunities for professional advancement.

As part of their duties, faculty members perform a broad range of tasks involving research, teaching, academic administration, and community service. Although performance-based assessment of faculty members has become an important topic in the past decade (Sinuany-Stern & Davidovitch, 2007), academic freedom impedes oversight and reporting of faculty performance in these various fields (Davidovitch, Soen, & Sinuany-Stern, 2011).

Previous research that studied performance measures of faculty members over time by gender (e.g., Sinuany-Stern & Davidovitch, 2007, 2014) focused on the glass ceiling effect in the academia and explored its underlying factors such as age, country of birth, family status,

academic status, and academic outputs. These studies indicate that promotion of women in the academia may continue to be slow as their performance levels remain low, when compared to their male counterparts. The current research is unique in its effort to explore leisure patterns of academic faculty members by gender, specifically in this field where faculty members are responsible for the allocation of their time to their various tasks and obligations. The research sheds light on the glass ceiling effect in the academic from a new perspective.

The first research question dealt with ethical-cultural obstacles and barriers to the advancement of women in academia. A gender difference was found only in the perception of money as a barrier to engaging in desired activities in one's leisure time, such that women more than men perceived a lack of money as a barrier.

The second research question dealt with ethical-cultural obstacles and barriers to the academic output of women in academia, in research and teaching. Among women a negative correlation was found between the perception of lack of time as a barrier and the number of Hebrew articles in the Haifa Index, such that the higher one's perception of lack of time as a barrier, the lower the number of articles in the index. Additionally, a positive correlation was found among women between the perceived need to care for someone as a barrier and their score on the teaching feedback, such that the higher the perceived need to care for another as a barrier, the higher the score on the teaching feedback. These correlations were not found significant among men. Among men a positive correlation was found between the perceived lack of facilities in the vicinity and the number of articles and citations, such that the higher the perceived barrier the higher the number of articles and citations.

The third research question dealt with discrimination against women in academia with regard to their professional advancement. Gender differences were found in tenure, such that the proportion of tenure among women (28.0%) is lower than among men (54.8%). Moreover, the proportion of women (55.0%) who think that women are discriminated against in academia on a gender basis is higher than the proportion of men (23.1%). In contrast, no differences were found in rank and academic role.

The fourth question dealt with the association between barriers and obstacles and between study disciplines (department). No differences were found in the variables of perceived barriers by department.

The fifth question dealt with the association between gender and the time resource. No difference was found between the mean for pleasure among women and among men.

In addition, the number of vacation days utilized by women was found to be higher than among men.

Men were also found to express a desire to devote more time to "paid work" and to "doing housework" than women. In contrast, women expressed a desire to devote more time to "leisure activities."

The sixth question dealt with the association between gender and perceived self-efficacy. No difference was found between the mean for efficacy among women and among men.

The seventh question dealt with the association between characteristics of utilizing leisure time and job satisfaction in a gender context. No difference was found between the mean of job satisfaction among women and men.

In addition, with regard to research a significant difference was found in the association between perceived lack of time as a barrier and the number of peer reviewed articles published, such that while among women a negative correlation was found between the variables, among men no correlation was found.

Conclusions

Significant differences were found in the associations between desire for more time with the family, desire for more time for academic administration, and vacation days, and between the feedback score, i.e., while among women no correlation was found between time with the family and the feedback score, among men a significant negative correlation was found between the variables. Furthermore, while among women negative correlations were found between time for academic administration and the number of vacation times and between the feedback score, among men no correlation was found between the variables. Neither was a significant difference found between the groups with regard to the association between the desire for more time to do housework and the feedback score, however when examining the correlations, it was evident that while among women a negative correlation was found between the variables, among men no correlation was found.

Regarding job satisfaction, significant differences were found in the associations between the frequency of fulfilling family obligations in one's leisure time, the desire for more time to do housework, and lack of money as a barrier to utilizing leisure time for desired activities, and between job satisfactions. Namely, while among women associations were found between the frequency of fulfilling family obligations in one's leisure time (positive), wish for more time to do housework (negative), and lack of money as a barrier to utilizing leisure time (negative), among men no correlations were found between these variables. Moreover, while among women negative correlations were found between time for academic administration and the number of vacation days and between the feedback score, among men no correlation was found between the variables. At the same time, no significant differences were found between the groups with regard to the correlations between the frequency of engaging in activities related to teaching in one's leisure time, the frequency of engaging in research in one's leisure time, and the degree of efficacy, and between job satisfaction, however when examining the correlations it appeared that while among women positive correlations were found between the variables, among men no correlation was found between the frequency of engaging in activities related to teaching in one's leisure time and the degree of efficacy and between job satisfaction.

Analysis of such factors can lead to initiated actions by university agencies to improve women's status. For example, it may be possible to improve the situation of women in academia by developing a variety of activities, such as establishing workshops for women on time management, familiarity with rules on advancement in academia, building mentoring programs for women at the beginning of their academic career, establishing an activist club for female personnel, encouraging participating in athletic activities, and establishing support groups.

The research findings raised the issue of policy concerning developing initiatives aimed at gender equality in academia, especially in light of the fact that the CHE also recognizes the significance of women's representation in senior academic ranks. The CHE states (CHE website.) that efforts must be made to raise recognition of the value of academic women's research and of their options for advancement, in order to put an end to the disparity between men and women in higher academic ranks, in tenure, and in academic leadership.

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