Stories Women Tell: Minority Faculty Women in Different Scientific Fields

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ABSTRACT

This study analyzes the narratives of Mizrachi (Oriental) faculty women's experience in institutions of higher education in Israel. These women comprise a small minority of the faculty and confront multiple difficulties because of the intersection of their gender, ethnic origin and low socio-economic status. The narratives describing their lived-experiences in academia are classified according to their 'thematic focus' into three types: a) a story of struggle and victory; b) a story of protest and critique; and c) a normative-canonical story. Each narrative type is illustrated by an empirical example drawn from the stories told by participants in interviews. The data reveal that various types of narratives are related to the different scientific fields in which women work. The findings are relevant to scientific communities and academic institutions that are increasingly heterogeneous in respect to gender, ethnic origin and social, cultural and national background.

KEYWORDS

Minority women; academia; scientific disciplines

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INTRODUCTION

Since the early 1970's the small proportion of women and their subordinate position as faculty members in institutions of higher education have been examined extensively (for example, Rossi, 1972; Ferber and Loeb, 1973; Reskin, 1978; Gornick, 1983; Chamberlain, 1988; Zuckerman, et al., 1991; Etzkowitz, et al., 1992; Sonnert and Holton, 1994; Jacobs, 1996; Valian, 1999). Women in academia have been conceptualized as a minority group of 'others', 'strangers' or 'outsiders' who have just opened a thin wedge into the realm of academic science and scholarship through which they enter slowly (Knights and Kerfoot, 2008), and in disproportionately smaller numbers than their augmented proportion as students and degree receivers.

A long list of factors have been identified in the research literature to explain this situation; some pertaining to the structure of social institutions and organizations (for example, the family-work problematic, gendered organizations, being a minority) (Kanter, 1977) and others to value systems, tendencies and stereotypes (for example, gender-frames and essentialist-beliefs (Ridgeway, 2009). It was soon realized that the different factors shaping and maintaining inequality between women and men in academia (and in general) are 'intricately entangled' and 'inextricably tied'. As such, it has been argued that the factors should be studied from an intersectional perspective (Crenshaw, 2001; McCall, 2005) because it is 'the best way to understand and deal with contemporary multi-dimensional forms of inequality' (Collins, 1998 p.68).

THE PURPOSE OF THE STUDY

In a previous qualitative study I explored the problem of intersecting bases of inequality by applying narrative analysis to the stories of Mizrachi (Oriental) faculty women in institutions of higher education in Israel. This situation afforded the opportunity to examine the interlocking effects of gender, ethnic origin and class from 'within', that is as narrated by respondents' from their own standpoint in contrast to that of outside observers (Toren, 2009).

Mizrachim (Oriental people) in Israel are Jews of African/Asian origin while Ashkenazim (Westerners) are those stemming from Europe and North America. This division is hierarchic and is extensively debated publicly, politically and academically[1]. Sociologists studying this problem call it the 'ethnic cleavage' in Israeli society, according to which the Ashkenazim (people of Ashkenazi origin) are regarded as occupying the higher strata while the Mizrachim (people of Mizrachi origin) are subordinate in respect to power, education, material resources and social standing.

The analyses of the narrative data in the 'intersection' study (Toren, 2009) aimed to examine the intertwined effects of gender, ethnicity and class, as they are understood and experienced in real-life by Mizrachi faculty women when attempting to make sense of their lives in academia. Although these analyses supported the intersection approach regarding the interlocking character of multiple bases of subordination, it was apparent that women's stories varied substantially regarding content, style, tone and emphasis. Put another way,

although respondents share many similar traits (gender, ethnicity, nationality, minority status etc.) they do not speak in the same voice. This impression led me to examine and compare the contents of the stories themselves looking for narrative patterns or types and their correlates which are the central research questions addressed in the present study.

SAMPLE AND METHOD

The participants of this study are nineteen faculty women of Mizrachi origin who were born, or came as young girls to Israel in the early 1950's mainly from Iraq and Morocco, but also from Iran, Yemen, Egypt, Algeria, Tunis. All respondents have a PhD. degree in a recognized field of learning from an accredited university; they are employed as faculty members in universities and colleges in Israel. Mizrachi women are a tiny minority of the faculty in institutions of higher education, constituting about 1%-2% of the total academic staff (N~4,750) and about 5%-6% of all faculty women (n~1200). The great majority of faculty members are of Ashkenazi Western origin[2].

Finding Mizrachi academic women for the study was a difficult task since universities and other public and official institutions do not note the persons' ethnic origin in their records for 'politically correct ' reasons, namely not wanting to be regarded as 'racist'. Sometimes ethnic origin can be identified by family name, but this is not satisfactory especially in the case of women who change their name after marriage. I, therefore, contacted a number of women who I personally knew to be Mizrachi and each told me the names of several other relevant colleagues. Only two of those I approached refused to participate.

The interviews held with participants were similar to open-ended interviews in which the researcher asks only a few guiding questions. Each interviewee told me her life-story focusing on her course of studies in elementary and high school, and later in an institution of higher education until obtaining the PhD. degree, the post-doc, and her appointment to the academic career in a university or college. I started each interview by asking: "Tell me about your family background", and then went on to ask about the interviewee's educational history and the development of their academic career.

The interviews were conducted at various places according to interviewees' wishes, sometimes in her office or mine and sometimes in a coffee shop. Each interview lasted from one and a half to two hours. The interviews were recorded and later transcribed, analyzed and interpreted. The stories presented here are not the complete material obtained in interviews; these were much too long. I focus on the parts that pertain to respondent's educational and professional history in the course of a defined time period, from elementary school until the first steps of their academic careers.

Qualitative research refers to studies that use and analyze narrative materials: literary works, autobiographies, oral life stories, diaries, conversations etc. Narrative research and analysis are presently widely applied in the fields of psychology, history, anthropology sociology, linguistics, and so on. Interpretations of narrative material do not aim to describe reality as it is or to reveal the 'Truth' (e.g., whether oriental faculty are discriminated or not) but to expose the subjective interpretation and reflexive understanding of individuals while attempting to make sense of their experiences and social environment (for

example, Denzin and Lincoln, 2000). As stated by Riessman: 'Meaning is fluid and contextual, not fixed and universal. All we have is talk and texts that represent reality partially, selectively, and imperfectly...Our analytic interpretations are partial, alternative truths…' (1993, p.15; 22).

There are different ways to interpret and analyze narrative data. In my previous study (noted above) I employed 'categorical-content' analysis in which the narrative data are dissected into defined units looking for recurrent themes across respondents' stories, such as referring to the effects of Oriental versus Western physical appearance or behavior on social interaction. In the present study I look at narratives vertically, reading each story as a whole and focusing on contents, structure and sequence. The first method of analysis is called the 'categorical – content' method, the second the 'holistic – content' method (see, Lieblich et. al., 1998, pp.13-14).

GENERAL OBSTACLES

The main obstacles experienced by the Mizrachi women participants are in general related to economic, social and cultural conditions, although their salience and combination may differ.

- Economic capital.

Almost all participants note that they confronted great difficulties because their families, usually from lower classes, did not have the necessary financial resources to support them during their academic studies and post- doc abroad. Even in later stages of their careers money matters, and they feel disadvantaged as compared to their Ashkenazi sisters who "have rich fathers or husbands" enabling them to hire child-care and household services. They are, therefore, free to devote more time for doing research, writing papers, and going to conferences, all of which are necessary for academic productivity and promotion.

- Cultural capital.

Most respondents emphasize that what sets them apart from Ashkenazi colleagues is not their ethnicity as such, but their different cultural heritage and tradition, namely a set of predispositions, patterns of behavior, language, tastes, and knowledge ('Habitus' - Bourdieu, 1990). This creates an 'educational gap' that makes their studies and career development much harder.

- Social capital.

The feeling of being a stranger in the academic white, male, middle-class milieu was expressed in the stories of many participants. They feel excluded from important social and collegial networks that are crucial to scientific work and productivity; this is of course also relevant to wider connections, such as knowing influential and powerful people in other social circles.

Despite all these limitations and obstacles, and not overlooking the presence of children often before attaining a higher degree, all these women "made it" in the sense of obtaining a PhD. degree and landing a faculty job.

NARRATIVE TYPES

Reading and rereading participants' narratives it appeared that although each story is distinct representing the individual's subjective experiences, perceptions

and attitudes, certain patterns of contents or 'thematic foci' can be discerned. Based on these thematic foci, I identified three main narrative types.

    a. The story of struggle and victory.
    b. The story of protest and critique.
    c. The normative-canonical story.

In the next sections I will first define each narrative type; secondly I will illustrate each type with 'first hand' data, that is the stories as told by participants in the interviews; and thirdly I will present my interpretation of each example (although other readers may interpret the data differently). In the last sections I will attempt to account for the variety of narratives, identifying factors related to each type, such as work culture and context.

At this point it is important to note that the romantic, critical and normative narratives as described are 'ideal types' classified according to their major theme. In reality, each type may include elements of other narrative types. For instant, normative narratives or stories of protest and criticism may include some 'romantic' elements; on the other hand, romantic or normative narratives may include critical strands as we shall see in the following examples.

A.   The Narrative of Struggle and Victory

Borrowing from literary genres I call the first type a 'romantic' narrative. This type of narrative is characterized by a story of struggle and victory in which the individual fights to overcome the barriers and hurdles on the way and finally achieves his/her goal. Although in the romantic narrative much emphasis is put on the history of struggles and hardships, these women feel empowered and proud regarding their accomplishments and final 'victory'.

These Mizrachi faculty women feel that they are disadvantaged because of their gender, class and ethnicity, and that the intersection and mutual construction of these factors compound their negative impact. The stories reflect a feeling of strangeness, marginality and of not belonging to the academic milieu because they lack the appropriate economic, cultural and social capitals (as noted above), or put another way – the necessary "tool-kit" for developing an academic career

An Illustration - Miriam

Miriam is forty- five years old. She is a 'lecturer' (roughly parallel to the American assistant-professor) in the Faculty of Humanities. Born to parents who migrated to Israel from Morocco in the 1950's she was raised in Beer-Sheva, a town located in the south of the country and inhabited, at that time, mainly by new immigrants from different countries. She is married and a mother of two children.

> I studied in elementary and high school in Beer-Sheva. These schools were very weak, inferior to those in the center of the country. I was a good student so I was transferred to a special boarding-school for girls in Jerusalem that had high educational standards.
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> When I was accepted for studies in the University my main problem was the lack of money. We were five children, my parents could not support

me, I had no 'safety net' when something went wrong… I saw other students who had apartments or even cars…I heard an Ashkenazi co-students say that when he was in financial trouble he picked up the phone and his father 'covered the difference.' I realized that formally there is equality of opportunity but in reality the competition is really very uneven. Those students don't have to fight so hard; it is much easier to be the daughter or son of a professor than of a blue collar worker like mine.

Mizrachi women in academia suffer from gender discrimination, economic discrimination and ethnic discrimination. I lately heard somebody say: "One Mizrachi woman in the department is enough, we don't need more."

Then there is the problem of what it means to be a Mizrachi woman? It is many things, for example what does it mean to be a Mizrachi mother? My mother gave up everything so that her children could have a hot meal every day. A mother sacrifices everything for her children, they always come first. I am already a little different but this is still embedded in me.

When I had to go for a post-doc abroad, I went to the Dean to talk about it. I told him that I don't have money that I have two children and that I pay rent for my apartment. This surprised him because some other post-docs owned their apartments. For him this meant that I do not belong, that I am different. These people at the top don't have a clue about our situation.

After I was nominated for the tenure track as assistant-professor ('lecturer' without tenure) the Dean had a meeting with me and my colleagues and told us: "These are going to be the four most difficult years of your life in order to advance your career and achieve the rank of associate- professor and tenure ('senior lecturer' in Israel is usually accompanied with tenure). Go home and tell your families to forget about you for four years!" How can you say such a thing to a woman and mother?

Recently, I received a prestigious prize for a study that I published. This was very meaningful for me. I felt that may be everything I went through was worth it. In fact I regard this prize as a reward for being different.

Interpretative Summary
In Miriam's story the intersection between gender, ethnicity and class are clearly visible. When she recaptured the history of her studies and first steps in academia she was so sad and angry that she started to cry. She remembers the obstacles that she faced as a Mizrachi woman of low socio-economic standing. Her feelings of not belonging, of being a stranger, are very acute and she sharply differentiates between 'they' and 'we'. 'They' don't understand what it means to be poor or lacking the supporting professional networks and cultural background, and of having to conform to traditional values and behavior which are not those of the powerful majority. It is not 'fair' that she and others like her have to compete with those who are much better equipped (Ashkenazi students and academics). She feels that this discrepancy is not just, but instead of fighting against the system, or leaving she goes on and tries harder.

After going through this hurdle race (Toren, 2000) she is appointed to the rank of lecturer, the first rank on the tenure track, while many other lecturers had to

leave the university. This achievement can be regarded a 'victory' for Miriam although she is not sure about her future and is also concerned about her colleagues whose academic career was cut short.

She gains another victory when she receives a prize for her work and feels compensated for her troubles. This event strengthens her self-confidence which she lacked until that time and encourages her to continue her work. She is proud of her accomplishments in spite of bad opening conditions and the barriers on the way.

B.   The Narrative of Protest and Critique.

The second narrative type is that of "protest and critique" expressing radical feminist and ethnic criticism of the social system in general and academic institutions in particular. In this group respondents exhibit a distinct ethnic identity and claim that their being of oriental origin inhibits their entering and advancing in academia. They usually stay on the margins of institutions of higher education as part-time teachers or adjunct professors, which means that they are excluded from the core tenure track and the progress of their academic career is not secure.

These women question the existing academic structure and arrangements. They argue that only radical change will decrease the disparities between men and women, Ashkenazi and Mizrachi, rich and poor faculty members, and eliminate inequality and discrimination. They demand no less than 'levelling the playing ground' and changing 'the rules of the game'.

Individually, they pay a price for not conforming to the established norms dominating the academic scene, that is the masculine definition of success, power games, competition, and male cliques and networks that exclude women. They also do not accept the hegemonic epistemology of mainstream domains of knowledge. Furthermore, they argue that the established interactional conduct within academia should also be changed to be more responsive to students' needs, increase the respect and cooperation among faculty members and the relevance of their work to the human-social environment.

An Illustration – Tamar
Tamar is an assistant-professor (lecturer) in the Faculty of Social Sciences in a university. She is forty-eight years old, has two children and is divorced. Her parents came from Iraq to Israel in the mid-1950's and she grew up in a small peripheral town with four other siblings. Since she was a good student in elementary school she was sent to a special high school in another city.

> In the last grade of elementary school I was transferred to another school. The idea of this educational program was to pick out talented children from the periphery to give them a head-start. Almost all students were from Mizrachi families and a few from underprivileged Ashkenazi families. I understood that I'm capable to study and that there is a chance that I will continue beyond high-school. This gave me a lot of self-confidence. I got married relatively late (at thirty) and had the children late. If you have children early you'll never finish your higher education, I see it among my female students who are Mizrachi and have children early. They come back to the university when they are forty, they'll never finish!

Here at the department I feel that I'm not appreciated as I should be. Universities are sexists and racist institutions. As a woman I have to prove myself all the time, my skills are doubted and not taken for granted as those of a man with similar achievements. The Mizrachi origin serves as an 'added value' to gender. You feel the resentment and aggression when I say what I have to say. Universities are male bastions that are ruled by male interests and values. For example, the 'publish or perish' rule. I want to invest much more in my students and in my social activities. I want my social activism to be considered as a contribution to the community. Male professors don't care about the students whereas I give them a lot of attention, time and mentoring. This will not help me to be promoted; men with similar research productivity or less than mine are already senior professors.

The ethnic problems have an added negative influence on top of gender discrimination. They can understand that a white woman has a high faculty position but it's more difficult if you're Mizrachi. Nevertheless, I think that women should unite in their battle for equality and not divide along ethnicity lines.

Another dimension of discrimination of Mizrachi women (and men) is that they are excluded from network connections with the 'right people'. They do not belong to the right milieu, and thus lack crucial information about scholarships and loans for higher studies. They don't know that you don't have to work in a factory or in the fields to survive, and to study at night. They don't ask for loans and grants, whereas the Ashkenazi know about loans and scholarships and how to get them.

Social class also plays a role, there are not many Ashkenazi who are really poor. I'm talking about the working classes. I see third- generation Mizrachi young women who could not study and they still do dirty low jobs like their mothers and grandmothers. I'm afraid their daughters will do the same. I think that there is almost complete overlap between oriental origin and lower class. Class, gender and ethnicity are interwoven, it is impossible to separate them. This is what I want to show in my research but I pay a price for criticizing the social and academic systems.

I started to investigate feminist and Mizrachi identities; I wrote papers and gave a lot of lectures on this subject. So, the head of department meets me one day and he says: "Its time you stop dealing with all this stuff, this will lead you nowhere". Writing on women is not considered serious; they think it does not contribute to the advancement of scientific knowledge.

Sexism and racisms are not even hidden here at the university, it's in the open, they do not even attempt to be politically correct. When a woman applies for a scholarship or a job she is put under a magnifying glass; when a man applies suddenly the criteria change, he may have published less or he may be over fifty. I also don't agree that racisms and gender discrimination existed only in the first decades after the establishment of the State (in 1948). The Ashkenazi say that these inequalities are

disappearing in the course of time but I think that's not true. Women and Mizrachi are still oppressed.

Interpretative Summary
Tamar's story is clearly a narrative of criticism and protest. It is also a good example of the intersection of gender, ethnicity and class that together color the life and careers of Mizrachi women in academia. She challenges the structure and the hegemonic values governing society and that are reflected in academia.

Anti-feminist and racist stereotypes and low social-economic status have affected her personally and she feels tired and disgusted that women, especially Mizrachi women in academia, have to prove their worth all the time; that they are not accepted as equal professionals among colleagues and their research is depreciated. She is also angry because of the total disregard for women's special needs in respect to pregnancy, giving birth and caring for children. Her protest against women's' social position and treatment is, however, not only personal and individual, she is deeply concerned about the subordinate position of women and other minority groups in general.

In her story, gender is a central theme, but ethnicity and class are intertwined with it and add to its negative impact. Women are partly to blame because they have internalized some of the established androcentric perceptions of society. They are not sure of themselves and their abilities and tend to apologize for their accomplishments. Furthermore, young Mizrachi women still adhere to the tradition that a woman's purpose in life is to get married and have children and do not believe that they are able to study and develop a successful academic or professional career.

She believes that universities should discard their white-male values and arrangements, as well as the distorted meaning of 'excellence' according to which only research, publications and citations are used to appraise an academician's worth. Universities should incorporate feminist ideology and criteria of equality between people of all kinds disregarding ethnicity, gender and nationality.

C.   The Normative – Canonical Narrative.

This narrative type conveys conformity to the rules and arrangements governing institutions of higher education and the belief in their basic meritocratic and universalistic nature. No social system completely adheres to its values and ideology, but by and large these women believe that recruitment to academic institutions and promotion on the academic ladder are free from gender, class or ethnic bias and discrimination. According to this perception the fact that women constitute a minority of the total faculty membership is probably due to the fact that fewer women than men prepare and apply for this demanding and greedy type of work. The fact that they do not advance as rapidly as men is accounted for by the fact that they are burdened by child-care and other household duties. In their opinion, people in academia are generally judged and rewarded for achievements and excellence.

An Illustration - Yael
Yael works in the department of physics in the university as an associate-professor. She is 43 years old, is married and has two children. Her parents migrated from Morocco, first to France and later to Israel.

> My first years in school were in France. The school was excellent and the teachers' attitude toward students was equal, free of national, ethnic or gender differentiation. This school gave me the motivation to go on to study science – mathematics and physics. Then I studied in high-school in Israel. Then I enlisted in the army for two and a-half years. I got my B.A., M.A. and PhD. here in the university and the Weitzman Institute.

> The difficulties started with the post-doc, it was almost impossible, but I was told that a post-doc abroad is a must! You cannot be accepted in physics or in other natural sciences without spending at least two years in a good lab in the US or Europe. In fact, I think this is very important because you learn new things and methods and connect with new scientists.

> My husband's work is tied to the country (Israel), so I waited for a year because he said that he would be able to come with me. But in the end he could not and I went alone with two children and my mother. Israel is a very androcentric-patriarchal society. I know many career-women who went with their husbands to support them during their post-doc, but not even one man gave up his job to accompany his wife.

> I don't think that institutions of higher education discriminate against women on the basis of ethnicity. It is true that as a Mizrachi woman you have to prove yourself, you have to show your 'receipts', but that is true for everybody. You have to show what you have done, what you have achieved. If your grades are good and your presentations and papers then you'll have no problem. The system is meritocratic, what is important is a strong file. May be, as a Mizrachi you are 'guilty' at first but they give you the chance to prove that you are 'innocent.' Personally I never felt discriminated.

> The obstacles are not located in the academic system but rather in the wider society. Here, women face difficulties that men do not. To work professionally and to raise a family is very hard. I can be asked by my son's Kindergarten teacher to bake a cake for tomorrow. She does not understand that in my line of work I may not have the time on such short notice. On a daily base, ethnicity is not an obstacle but gender is. In the department of physics today there is no ethnic discrimination at all. I think that to be a man or a woman is much more significant than to be a Mizrachi woman or an Ashkenazi woman.

Interpretative Summary
Yael is convinced that academia is a meritocratic and universalistic institution in which people are judged and rewarded according to quality i.e., the excellence of their work. According to her experience ethnicity and class have no effect on recruitment and promotion of academic research personnel. Furthermore, she never felt discriminated against or excluded for being a woman scientist within

the university. If you are a good scientist ("you show your receipts") women will advance equally to men. This approach is in line with the formal declarations of university governing bodies who strongly deny any kind of bias in their handling of faculty, administrative staff, as well as students.

Interestingly, her experiences and criticism of gender inequality are directed at society at large rather than against the academic domain. Society discriminates against working women by not taking into account the heavy double burden of work and family with which they have to cope. For example, there are no arrangements for long school days. In the same vein, schools tend to channel girls to the soft sciences and away from hard science and do not invest resources and effort to support them to develop their mathematical abilities. In these respects and others, men are preferred much more and women are neglected because of sexist-patriarchal perceptions and expectations.

The aim of the three illustrations presented above is to support and clarify the classification of participants' stories into three narrative types: the romantic (Miriam), the critical (Tamar), and the normative (Yael), and the different themes that run through them. Nevertheless, as noted before, narratives of one kind are not "pure", free from elements of other types. Thus, for example the last story, that of Yael is basically 'normative-canonical' [3]– upholding and legitimating the established academic structure and ideology while criticizing and rejecting certain values and norms that dominate society at large, such as patriarchy.

THE CULTURE AND STRUCTURE OF SCIENTIFIC FIELDS
The presentation and interpretation of the academic life-experiences as told by faculty women of Mizrachi (Oriental) ethnicity and lower class origin show that small, subordinate minority groups are not necessarily homogeneous. Mizrachi faculty women do not experience their academic life and work in the same manner and do not speak in one voice. What may account for the diversity of their narratives?

It should be noted, that a qualitative study like the one presented here does not aim and does not permit us to draw quantitative statistical conclusions on the ground of its data. Various factors may be involved in the kind of story told by participants, such as the different country from which they came[4], their educational history, their family's social-economic standing, their current position in academia, and the like. For examining these relationships the number of participants is too small; I therefore looked for other possible connections that seemed logical, e.g. between narrative type and the academic discipline in which a woman works. Indeed when different fields of science were cross-tabulated with narrative type the following distribution was revealed.

Table 1

Narrative type	Normative	Critical	Romantic
Humanities	3	1	3
Social science	1	6	
Natural science	5		

The table shows that participants from the social sciences are concentrated in the 'protest and critique' narrative type (n=6). Another relatively large group is

located in the 'normative-canonical' type composed of all participants who work in the natural and physical sciences (n=5). In the humanities women are equally divided among the 'romantic' and 'normative' narratives with one in the 'critical-protest' category[5].

As mentioned, this distribution has no statistical validity but the question still remains whether the relation between particular types of narrative (romantic, normative, and critical) and different fields of science and scholarship as revealed here makes sense and can be understood, and whether it is in accordance with findings and knowledge from other studies that deal with related subjects.

Narrative Type and Scientific Field
A number of studies have dealt with the question of the differences between scientific fields as they pertain to women (Keller, 1985; Harding, 1986). One of the central ideas that appear in the professional literature dealing with women in science is that popular stereotypes depict women as not suited to do science, particularly in the fields of 'hard' sciences - physics, chemistry, mathematics and engineering. Women are thought to lack the qualities and abilities that are needed for doing science in these fields, that is abstract, rational, and mathematical thinking, authority and a strong drive to excel and compete with others. All these characteristics are perceived as masculine traits, whereas women are supposed to be emotional, dependent, lack self-confidence and determination, and not ready to take on demanding professions because they are mainly devoted to their children and families (Acker, 2008).

Saying that universities are gendered institutions means that the culture and structure of academia are built to fit masculine characteristics, interests, needs, and tendencies. This situation indicates, by definition, that women will face many barriers to enter and advance in traditional institutions of higher education (Acker, 1990; Ward, 2004).

The physical exact sciences and engineering are strongly gender-typed and regarded as most unsuitable for women and indeed their numbers in these fields are very small. By comparison, the humanities and social sciences are thought to be less demanding in regard to masculine capabilities and attitudes, and women are perceived as 'fitting in'. Women themselves are more drawn to these areas of scholarship and research and constitute larger proportions than in the natural disciplines.

In light of the findings of the present study the question addressed here is why do women in physical, natural disciplines tend to describe their life experiences in institutions of higher education in 'normative-canonical' narratives, based on the belief in the meritocracy and impartiality of academic institutions' arrangements, while in other fields of science and scholarship they usually do not? According to the popular assumption, that within strongly male-typed disciplines the inequalities between men and women are larger, we would expect that women in these areas would feel more discriminated and marginalized and would probably not support the current values and organization of academia.

I propose that the question posed above is based on the differences in type of the scientific discipline, namely the natural versus the behavioral sciences and their social organization as detailed below.

The Professional Natural Scientist
In a previous study on women in academia in Israel we found (Toren and Kraus, 1987) that women in the natural sciences, who constitute very small minorities (about 8-10%), were more 'successful' than those in the humanities and social sciences, in which their proportions were larger (25-36%) (See also Coser,1981; Toren, 2000; Valian, 1994; Lorber,1994; Zuckerman and Cole, 1979; Zimmer, 1988). The discrepancies of career progression are both between genders in the same field and between different disciplines. In general, the average time to reach the rank of full-professor for men (12 years) is shorter than for women (15+ years). The time gap between genders is larger in the social sciences and humanities and smaller in the natural sciences. Findings (in Israel 1995) show that in the humanities 7.4% percent of all the female faculty were in the highest rank of full-professor and 28.6% were in the lowest rank of lecturer. In the natural fields almost exactly the opposite distribution was found, that is 27.8% were full-professors and 7.1% were in the lowest rank of lecturer. Referring to this situation one interviewee succinctly said "…it seems that hard science overrides patriarchy."

In addition, in her criticism of the report Beyond Bias and Barriers, published by the National Academy of Science, Hausman calculates that although there are differences of average time to climb the faculty ladder between women and men everywhere: '…*these disparities are noticeably larger in the social sciences* than in biology or SEM. Moreover, the difference between male and female scientists in SEM is minimal…'[6] (Hausman, 2008, p.396, italics in original).

The presumption that women are more suitable to work in the 'soft ' disciplines, such as the humanities and social sciences, has done them no good, in terms of advancement and ranking, despite the fact that the proportion of women in these disciplines are larger. Furthermore, if disparities between genders are less pronounced in natural disciplines we can begin to understand why these women legitimize the established rules of academia as reflected in their 'normative-canonical' narratives.

What is it in the culture and work organization of the physical disciplines that may explain women's subjective experience that the academic system is fair, that they are not discriminated and that attainments depend on talent, motivation and dedication of the individual? As put in Hebrew: "Those who invest – achieve!"

Two principal factors seem to be involved in this experience. First, related to the different subject matter with which they deal, the natural sciences are characterized by higher levels of paradigm development and greater clarity and consensus on what defines quality, which enables the process of evaluation to be more precise and objective. Under these conditions, the effects of gender stereotypes are minimized or neutralized. When, however, criteria are more ambiguous, as in the humanities and social sciences, irrelevant status characteristics, such as gender, age, color, or ethnicity, become more salient.

Second, the organization of work and work-context are another important factor. Natural scientists perform a major part of their work in the laboratory with its sophisticated and expensive equipment and materials. Natural science research requires team-work and collaboration; women and men work together 'under the same roof' and 'at the same bench'. Physical proximity makes women's skills and competence visible to male co-workers, and face-to-face interaction may contribute to the modification of prejudice, as we know from race relations research and studies on women managers. This is in line with a growing number of studies that suggest that women in high-tech industries fare better in organizations that are less hierarchical, but rather organized in interactional-network form (Whittington and Smith-Doerr, 2008; Powell, et al., 2009).
I propose that the more objective standards of evaluation, type of work-setting and more rigorous time limits of research in the natural sciences have a neutralizing effect on sex-based stereotypes reducing the achievement discrepancies between genders (Toren, 2000).

The Critical Social Scientist
The findings of the present study show that when compared to faculty women in the natural sciences, those in the social sciences are concentrated in the 'critical-protest' narrative category (see Table 1). Their research subject-matter is different and cannot be measured or experimented with in the same manner as in the physical disciplines. Since social scientists' research and teaching are concerned with human relations (i.e., power) and social structures (bureaucracy), their work usually has a significant political or subversive dimension, which may be controversial and open to debate. Evaluation standards are, therefore, more subjective and ambiguous. Vague criteria of excellence and judgment open the door for bias, and the feeling among faculty women that irrelevant factors influence decisions regarding their accomplishments and career development (as strongly expressed in Tamar's narrative above).

In addition, the work environment of social scientists differs from that of natural scientists; they often work alone or in very small temporary teams. As mentioned above, we know from previous studies that kind of work-context affects workers' conduct, attitudes and productivity. Another important factor to be noted is related to the wider external context in which the social scientists in this study are located. All five participants included in the 'critical-protest' narrative category are employed by less prestigious universities and colleges than the others.

The different subject matter of research, different standards of evaluation and different work-organization explain, at least in part, the normative acceptance of the rules by women in the natural disciplines, and this is in contrast to the critical rebellious attitude against the status quo of the social scientists, as expressed in their different types of narratives.

Doing and Undoing Gender
The differences between the perceptions and narratives of faculty women in different fields of science, as shown above, can be further clarified by applying the concept of 'doing gender' (West and Zimmerman, 1987; Deutsch,2007).[7]
The 'normative canonical' narrative of women in the physical sciences expresses an attempt to 'undo gender' in various ways in order to show that they are real

professionals (like men) and nothing else. They deny that women may do science differently from men as frequently expressed by statements, such as: "My gender has nothing to do with my professional work!" or put differently: 'In 'doing' engineering, women often 'undo' their gender' (Powell, et al., 2009, p.411).

The concepts of 'doing' and 'undoing' can be expanded and employed in reference to other ascribed traits or 'master identities' (Ridgeway, 2009), such as ethnicity, race, age, religion or nationality. In this study, undoing gender is often coupled with dismantling ethnicity and low social status, or detaching these identities from professional work and relegating them to the private realm of home and family, as well as to public domains outside the professional work-setting, i.e. politics (Toren, 2009). On the other hand, those women in the social sciences who, all but one, belong to the critical-protest narrative type 'do gender' by mobilizing their gender (femaleness), ethnicity (oriental origin) and lower class origin to resist and challenge the academic and social systems, and to attempt to change them. Moreover, they integrate these personal and social issues of inequality into their research and teaching (for example, gender and minority group studies). They do not want to shed or hide their particular characteristics but rather want others to recognize and respect them as such. As stated by one interviewee in this category: "I am a proud Moroccan…it is important that I teach other low class Mizrachi women to be aware of their worth."

CONCLUSION
This study aimed to elicit the lived experiences of faculty women of Mizrachi (Oriental) origin in institutions of higher education in Israel. These women are generally perceived as not suitable for, or not 'belonging' to the majority membership in academia, which is composed of Ashkenazi (white) men of high-middle class status. The facts are that these women comprise a very small minority of the total faculty and a small minority of the total female faculty, only a few are full-professors and more of them work in public colleges than in research universities.

Narrative analysis (holistic-content method) conducted in this study found that participants' academic life-stories vary and fall into three types. There are those who accept and conform to the established structure and culture of academic institutions (the normative-canonical narrative); those who reject the current arrangements and want to change them (the critical-protest narrative); and those who are more individually-centered emphasizing the hurdles they had to cross until achieving their goal (the romantic narrative). We may regard the narrative types as different ways of coping by people who are in the position of a subordinate minority.

Various factors are involved in the ways participants perceive and narrate their experiences as faculty members. The small number of interviewees and qualitative nature of the study did not permit me to examine the effects of such factors as seniority, family status, academic rank and so on. The data, however, indicate a relation between two of the three narrative types and two different scientific domains. Namely, most faculty women (6) engaged in social science research and teaching fitted into the 'critical-protest' narrative type, whereas all women in the physical sciences (5) belonged to the normative-canonical type. I

have argued that much depends on the nature and context of work. In fields of science in which evaluation and judgment are more straightforward and objective (the physical sciences)[8] women do better in reality (i.e., rate of advancement and rank attained) as compared with their male colleagues, and subjectively feel more rewarded and satisfied than women in the 'soft' fields, in which they compose larger minorities. Furthermore, I have suggested that doing research in collaborative teams in the 'hard' sciences has beneficial consequences and reduces the gaps between men and women in the work place.

Research on gender frequently looks for female essentialist attributes to account for differences in the behavior of women and men (e.g. The MIT Report, 1999). Recent research and the present study suggest that conduct is related to context and that we should not simply generalize across professional cultures and organizational structures (Smith-Doerr, 2004).

Moreover, the perceptions and subjective experiences of minority women in academia vary as disclosed by the different types of narratives they tell in order to make sense of their multiple identities (the intersectionality of gender, ethnicity and class) and their environment.

The scientific and academic research communities of most countries today are becoming increasingly heterogeneous in respect to gender, ethnicity and social-national and cultural backgrounds. It is therefore hoped that the present study contributes to our knowledge and understanding of the attitudes, difficulties and coping strategies of various minorities in higher education and in different fields of science.

ENDNOTES

[1] In this context I use the term ethnicity instead of race because ethnicity is used in Israel to distinguish between Oriental (Mizrachi) and Western (Ashkenazi) Jews. These groups are not considered to be of different races but to originate from various Jewish communities in the world. At present, Official statistics divide the population into those born in Europe and America (Ashkenazi) and whose father was born in these countries, compared to those born in Africa and Asia or their fathers were. The largest group, however, are those Born in Israel (third generation). In reference to origin the two groups (Mizrachi and Ashkenazi) are roughly equal in size.

[2] The total faculty, on the tenure track in research universities only and not including colleges, number about 4,750. Women compose 25% of the total faculty. All Mizrachim (men and women) constitute 9%, Ashkenazi women and men 90%, and Arab faculty 1%.

[3] It is noteworthy that all five women academics in this study that work in the natural science fields, including Yael, are concentrated in the normative type of narrative (see Table 1). Not one of their narratives can be classified as romantic or as critical. This is an important finding to which I will return later.

[4] For example, the nineteen women studied came from nine different countries.

[5] For this reason the following discussion will focus on natural versus social disciplines and the normative and critical narratives. The data of this study are not sufficiently detailed to deal with the humanities and romantic narrative.

[6] It took the average woman in the social sciences almost two years longer than her male colleague to advance from assistant to full-professor. In biology and SEM the difference was less than a year.

[7] "Doing gender involves a complex of socially guided perceptual, interact ional, and micro political activities that cast particular pursuits as expressions of masculine and feminine 'natures'." (West and Zimmerman, 1987, p.126).

[8] This conclusion is in accordance with the general finding that women succeed more in the professions that depend on expertise, than in general management in which authority is primary and the measurement of the 'product' is more problematic.

REFERENCES

Acker, Joan. (1990). 'Hierarchies, jobs and bodies: A theory of gendered organizations'. *Gender & Society*, no. 4, pp.139-58.

Acker, Joan (2008). 'Helpful men and feminist support: More than double strangeness'. *Gender, Work and Organization*, no.15, 3, pp. 288-93.

Bourdieu, P. (1990). 'Structures, habitus, practices' in *The Logic of Practice* (pp.52-79). Stanford CA, Stanford University Press.

Chamberlain, Marian K. (1988) *Women in academe: Progress and prospects*. New York: Russell Sage Foundation.

Collins, P. H. (1998) 'It's all in the family: Intersections of gender, race, and nation'. *Hypanthia* no.13, pp. 62-82.

Coser, Rose Laub (1981) 'Where have all the women gone?' in *Access to power: Cross national studies of women and elites.* Cynthia Epstein and R.L. Coser (eds.) pp.16-33, London: Allen and Unwin.

Crenshaw, K. (2001) 'Mapping the margins: Intersectionality, identity politics and violence against women of color*. Stanford Law Review*, no.43, pp.1241-1299.

Denzin, Norman K. and Y.S Lincoln, eds. (2000) *Handbook of Qualitative Research (2nd edition)*. Thousand Oaks: Sage Publication

Deutsch, Francine M. (2007) ' Undoing gender'. *Gender& Society*, no. 21, pp.106-127.

Etzkowitz, Henry, Carol Kemelgor, Michael Newscasts, and Brian Uzzi (1992) 'Athena Unbound: Barriers to Women in Academic Science and Engineering'. *Science and Public Policy*, no.19, pp.157–79.

Ferber, Marianne A. and Jane W. Loeb. (1973) 'Performance, rewards, and perceptions of sex discrimination among male and female faculty'. *American Journal of Sociology*, (1973), 78:995–1002.

Gornick, Vivian. (1983) *Women in Science: Portraits from a World in Transition*. New York: Simon and Schuster.

Harding, Sandra. (1986) *The Science Question in Feminism*. Ithaca: Cornell University Press.

Hausman, Patricia. (2008) 'Feminizing science: The alchemy of title IX'. *Academic Questions*, no. 21, pp.392-408.

Jacobs, Jerry. (1996) 'Gender inequality and higher education'. *Annual Review of Sociology*, no. 22, pp.153-85.

Kanter Rosabeth. (1977) Men and Women of the Corporation. New York, Basic Books.

Keller, Evelyn Fox. (1985) *Reflections on Gender and Science.* New Haven: Yale University Press.

Knights, David and Deborah Kerfoot. (2008) Editorial:' Breaking boundaries: Women in academia'. *Gender, Work and Organization,* no.15, 3, pp.231-34.

Lorber, Judith. (1994) *The Paradoxes of Gender*. New Haven, Yale University Press.

Lieblich, Amia, Tuval-Mashiach, Rivka, and Zilber, Tamar. (1998) *Narrative research: Reading, analysis, and interpretation.* Thousand Oaks: Sage Publications.

McCall, L. (2005) 'The Complexity of Intersectionality'. *Signs: Journal of Women in Culture and Society*, no.30, pp.1771-1800.

MIT Report, A Study on the Status of Women Faculty in Science at MIT, March (1999).

Reskin, Barbara F. (1978) 'Scientific productivity, sex and location in the institution of science.' *American Journal of Sociology* no.83, pp.1235–43.

Powell, Abigail, Barbara Bagilhole and Andrew Dainty. (2009) ' How women engineers do and undo gender: Consequences for gender equality'. *Gender, Work and Organization* no.16,4, pp. 411-28

Ridgeway, Cecilia. (2009) ' Framed before we know it: How gender shapes social relations'. *Gender& Society* no.23, pp.145-60.

Riessman, Catherine K. (1993) *Narrative analysis. Qualitative research methods* vol. 30. Newbury Park: Sage Publications.

Rossi, Alice S.(1972) 'Women in Science: Why So Few?' in C. Safilios-Rothschild (ed.) *Toward a Sociology of Women*. Lexington, Mass: Xerox College Publishers, pp.141-53.

Smith –Doerr, Laurel. (2004) Women's work: Gender equality vs. hierarchy in the life sciences. Boulder Co: Lynne Rienner.

Sonnert, Gerhart and Gerald Holton. (1994) *Gender Differences in Science Careers*. New Brunswick: Rutgers University Press.

Toren, Nina. (2000*) Hurdles in the Halls of Science: The Israeli Case*. Lanham: Lexington Books.

Toren, Nina. (2009). Intersection of ethnicity, gender and class: Oriental faculty women in Israel. *Gender Issues, Vol.* 26, pp.152-66.

Toren, Nina and Vered Kraus. (1987) The effects of minority size on women's position in academia. *Social Forces*, Vol. 65, pp.1090-1100.

Valian, Virginia. (1998) *Why So Slow? The Advancement of Women*. Cambridge Mass: MIT Press.

Ward, Jane. (2004) 'Not all differences are created equal: Multiple jeopardy in gendered organizations'. *Gender & Society*, Vol.18, no.1,pp. 82-102.

Washington, DC National Academy Press. (2006) *Beyond bias and barriers: Fulfilling the potential of women in academic science and engineering.*

West, Candace and Don H. Zimmerman. (1987) 'Doing gender'. *Gender&Society* Vol.1, no.2, pp.125-51.

Whittington, K. Bunker and Laurel Smith-Doerr. (2008) 'Women inventors in context: Disparities in patenting across academia and industry'. *Gender& Society* no.22, pp.194-218.

Zimmer, Lynn. (1988) 'Tokenism and women in the workplace:The limits of gender-neutral theory'. *Social Problems* Vol.35, no.1, pp.64-77.

Zuckerman, Harriett, Jonathan Cole and John Bruer (eds.). (1991) *The Outer Circle: Women in the Scientific Community.* New York: Norton.W