In the Name of God

Women's Studies

Vol. 3, No. 3
Winter 2006
Serial No. 9

A Peer Reviewed Quarterly Journal

Al-Zahrā University
Women's Research Centre

Publisher	*Al-Zahrā University*
Chief Executive	*Zohré Khosravi, Ph.D.*
Chief Editor	*Khadijé Safiri, Ph.D.*
English Editor	*MohammadHosein Hāshemi*
Layout Designer	*Vafā Sarmast*
Cover Designer	*Ashraf MoosaviLar*
Editorial Secretary	*Kobrā Mehrābi Kooshki*
Publication Frequency	*Quarterly*
Publication Permit No.	*124/1406*
Peer Review Permit No.	*3/2910/1119*
Circulation	*1500*
Website	http://JWS.alzahra.ac.ir/

Address	*Vanak St., Vanak Sq., Tehrān, IRĀN*
Postal Code	*1993891176*
Phone	*+98 (21) 8805 8926*
Fax	*+98 (21) 8804 9809*
E-mail	women_rc@alzahra.ac.ir

Contents

Editorial Foreword

The assertion that, “Women’s Studies” has acquired a unique position within the general domain of knowledge is backed by a glance over casual as well as astute observations. The prerequisite of explaining women’s place within socio-economic and politico-cultural processes has become a central task for the theorist, as well as for the manager and the planner. In other words, in order to represent, or be representative of, a human population, the prevailing patterns of thought and practice are faced with the functional dynamics of counting women in. All human societies have experienced the moulding of Women’s Movement in accordance with a specific historical milieu. In Irān, one can analyze such developments within a general framework which encompasses traditionalism, modernism and the Islamic perspective. The mainstream current in the Islamic perspective has contained a blend of both traditionalism and modernism. An investigator, based on historical developments, may attempt to classify the current influential thought into two main camps. One camp considers tradition as the main component of such a blend, and presents an analysis within that framework. The same blend or amalgam (of tradition and modernity) is contemplated by the other camp with an emphasis placed on modernism. Thus a critique of the tradition is mustered. In both camps, to be sure, shortcomings persist. It is in such a context that the observer is reminded of the fact that

the Iranian society is passing through yet a crucial period in its long history. In such a time, it is imperative to consider the essence of the past through which our present has emerged. It is also essential to think of improving the current perspectives to meet the exigencies of the time. Such an outlook has to be research-oriented and critical in nature. The need for a fresh paradigm has never been felt so strongly before.

Such a spirit has shaped our vision at ***Women's Studies Journal*** at Al-Zahrā University. It is a quarterly peer reviewed journal dedicated to women's issues. The present volume is its ninth issue and the first to appear in English. Our journal has spurred much research within fields of special, though not exclusive, interest to women, thus promoting the production of interdisciplinary knowledge and encouraging participation of those active in the relevant research in diverse areas of social sciences.

We welcome English articles submitted by nationals of all counties. A variety of contrasting views are being supported by our members of editorial staff who are eager to see that a continuous and enhanced awareness regarding women in general and the Iranian women in particular, is brought about as a result of scientific cooperation across nations. Certainly, there are many vexed questions to tackle. Modesty is a virtue we famously cherish here in Irān. Yet, by no means are we complacent about the quality of our present output. Performance is the best way to reach an improved point. We are, however, proud that as yet our journal has received a high academic status inside Irān, a status which is certainly unparalleled in a region about which conventional clichés and misconceptions abound.

Contributions to this edition range over a rather wide area within social sciences. Each of the six articles is complementally

presented so that a rather comprehensive picture emerges as to the situation of the Iranian women. We wish to broaden this perspective by inclusion of articles portraying the situation in which women of other nations live.

Dr. *Mehrān*'s article shows that within the past decades the most significant progress has been made at the primary and secondary education. Yet, despite major achievements in the realm of female education, shortcomings seem to exist mainly in lack of access to schooling among poor, rural, and nomadic girls. The continued existence of a gender insensitive school curriculum that portrays stereotypical images of men and women in textbooks creates a traditional mentality that direct female students away from what have been labelled as "male-oriented" fields of study. Dr. *Mehrān*'s analysis shows that in the post-revolutionary Irān women have come to seek education as a means of equality and empowerment.

Safiri's article argues that the existing situation is described by some as "improper" due to the prevalence of a patriarchal society. Another perspective attempts at highlighting the scientific status achieved by the Iranian women in recent years. In this article the Iranian women's situation is discussed taking into account gender development indices as compared with those of other nations.

Dr. *Khamsé* conducted a survey on 3770 male and female students in nine universities of Irān. Her aim was to reach a comparison concerning the creative processes in female and male students. Dr. *Khamsé* cites results supporting the view that the bilateral integration of cerebral function is most clearly exhibited by creative persons. In general, it seems that creativity is a functional system comprising the interaction of the cognitive functions in hemispheres. *Khamsé* elaborates that: creative person can use his or her imaginative ability in an autonomous way. This autonomy has far reaching implications

in that it is indicative of how performing everyday tasks requires a high degree of freedom.

The article written by Dr. *Seif* and her colleagues is actually a project report. The writers seek to develop a reliable tool to standardize Family Forgiveness Scale. Their research intended to examine the roles played by the differences in gender and the level of academic education in the extent of forgiveness. From a cultural standpoint, one would encounter numerous acts of forgiveness by leaders at various periods in the history of Irān. It is so engrained in this culture that the mythical heroes are not only powerful; they are always gracious and forgiving in victories. The authors have found adequate information to compare the forgiveness in Irān with that of United States performed by *Pollard*. The comparison of results indicates similar forgiveness scale between the two cultures

Dr. *Afshāri* and Mr. *Sheibāni* tackle the issue of women's employment. Women's jobs are less likely to be complemented by expensive capital equipment, thus are less productive, more likely to be temporary and insecure, less likely to be organized, and contain dimmer prospects for promotion. Unstable supply of women characterizes their labour markets. These are common features of secondary labour markets which are less well paid. *Afshāri* and *Sheibāni* trace trends in labour force participation of women in Irān, and find that education, fertility, and the age distribution of the population are among factors which have attracted increasing number of women to the labour market in Irān.

Drs. *Imān* and *Ahmadi* survey the role of the socio-economic factors in the explanation of aggression of husbands against their wives. Their survey's assumptions have been developed from social learning approach and from the comparative historical theories. The research examines the physical, mental, social, and economic aspects of aggression of husbands toward wives. The self-report data were obtained

through a questionnaire from a sample of 1500 wives residing in Shiraz. The findings suggest that there are significant relationships between the aggressive behaviour of husbands against their wives and their parents' addiction, the attitude of the husbands toward religion, the employment of the wives and the aggressive behaviour against wives by their parents. The occurrence of social changes in Irān, and rational conceptualization of religion have weakened the traditional support for the illogical family relationships (especially the relationship between husband and wife) and the gradual tendency toward the humanistic approach is being strengthened.

Finally, it must be acknowledged that without the support given by the President of Al-Zahrā University this journal could not come into being. Moreover, I should thank those involved in the preparation of this issue: the contributors whose work is the stuff out of which this issue is made, Mr. *Hāshemi* who edited the articles, and Mr. *Sarmast* who is our Persian editor and the layout designer, in this issue he handled many technical tasks.

Chief Editor
Khadijé Safiri

22 December 2006, Tehrān

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 11 - 31

A Study of the Achievements and Remaining Challenges in Female Education in Irān

Golnār Mehrān, Ph.D.
Department of Education, Al-Zahrā University

Abstract

A considerable progress has been made towards gender equality in the Iranian education over the past decades. The study of various educational indicators points to such a fact. The most significant progress has been made at the primary and secondary education levels where the gender parity index (GPI) since 2000 has been 0.96 and 0.92, respectively. The purpose of this article is to identify the key factors that have led to higher gender equality at the primary and secondary education levels in Irān. It analyzes the educational, social, political, economic, and cultural elements that have acted as facilitating factors, and points to effective policies and innovative measures undertaken. It also identifies the in-school and out-of-school obstacles that continue to hinder efforts to close the gender gap in education.

A situation analysis of the educational trend over the past decades; an analysis of the stages of the revolution, the "Question of Woman", and the dual role of women in post-revolutionary Irān; and the portrayal of the political will and popular demand for education illustrate some of the causes of increased gender equality. On the other hand, the three basic principles of the Islamic Republic of Irān —namely, politicization, Islamization, and equalization— have paved the road for increased female participation in education.

Despite major achievements in the realm of female education, shortcomings persist mainly in terms of lack of access to schooling among poor, rural, and nomadic girls. Furthermore, the continued existence of a gender insensitive school curriculum that portrays stereotypical images of men and women in textbooks creates a traditional mentality that direct female students away from what have been labelled as "male-oriented" fields of study.

Significant shortcomings notwithstanding, one can see a cycle in female education in Irān in which the ruling elite seeks to educate the ideal female citizen according to the principles of an Islamizing and revolutionary society, thus creating a generation of educated women who, in turn, influence their society and act as role models for young girls, who then seek education as a means of equality and empowerment.

Keywords

Gender Equality; The Iranian Education; Primary and Secondary Education; Gender Parity Index (GPI);

INTRODUCTION

The study of various educational indicators, including access to early childhood care and education, participation in primary, secondary, and higher education, and adult literacy rates, points to considerable progress made towards gender equality in Irān over the last decade. The most significant progress has been made at the primary education level, where the gender parity index (GPI: ratio between girls' and boys' rates) in the gross enrolment ratio went from 0.90 in 1990–1991 to 0.96 in 1999–2000, and the secondary education level, where the GPI went from 0.73 to 0.92 during the same period (UNESCO, 2002:242–243, 250–251). What are the causes of increased gender parity in Iranian education?

The purpose of this case study is to identify the key factors that have led to higher gender equality at the primary and secondary education levels in Irān. It will analyze the educational as well as social, political, economic, and cultural elements that have acted as facilitating factors, and point to effective policies and innovative measures undertaken. It will also identify the in-school and out-of-school obstacles that continue to hinder efforts to close the gender gap in education.

This paper consists of the following sections: a situation analysis of the educational trend over the last decade; an analysis of the status of women in post-revolutionary Irān; a portrayal of political will and popular demand for education; a review of remaining challenges; and recommendations for closing the gender gap in education.

THE SITUATION ANALYSIS OF EDUCATION

Irān is a young nation with a population of nearly 70 million, among whom 40 percent are below age 15, and 56 percent between ages 15 to 64. The Islamic Republic of Irān, according to its Plan and Budget Organization (PBO), is a developing country with an upward trend in the human development index (HDI) value from 0.642 in 1988 to 0.758 in 1997 and thus considered among nations with medium human development (Plan and Budget Organization, 1999:15). The key factors leading to human development gains in Irān during the 1988 to 1997 period consisted of increased life expectancy (from 61.6 to 69.5

years); higher rates of adult literacy (from 57.1 percent to 74.5 percent); and better combined first, second, and third level gross enrolment ratios from 65.6 to 75 percent. In 1997, life expectancy at birth was 70.6 years for women and 68.4 years for men. In the same year, the female adult literacy rate was 67 percent compared to 81.9 percent male literacy. Furthermore, the combined first, second, and third level gross enrolment ratio was 73.3 percent for women and 76.7 percent for men. Irān graduated from low to medium standing on the gender-related human development index (GDI) value from 0.454 in 1988 to 0.579 in 1997 (Plan and Budget Organization, 1999:146).

THE OVERALL CONTEXT

According to UNESCO statistics, adult literacy rates in Irān (age 15 and over) have increased from 63.2 percent (72.2 male and 54 female) in 1990 to 76 percent (83 male and 68.9 female) in 2000, pointing to significant progress in female literacy over the last decade. Further gender equality is noticed when literacy rates for Iranian youth are taken into consideration. The youth literacy rates (age 15 to 24) have increased from 86.3 percent (91.7 male and 80.8 female) to 93.8 percent (96.2 male and 91.3 female) during the 1990–2000 period (UNESCO, 2002:218).

Looking at gross enrolment ratio in early childhood care and education for children age 3 and above, one observes a shift from a GPI of 0.95 in 1990–1991, showing a disparity in favour of boys, to a GPI of 1.06 in 1999–2000, indicating a disparity in favour of girls. The same trend is expected at the higher education level. According to the Ministry of Science, Research, and Technology, there was an increase in the percentage of women enrolled in public universities from 27.3 percent in 1990 to 44.1 percent in 1999 (Ghiāsi, 2000: 16). During the 2001–2002 academic year, women comprised 50 percent of university students, while 52 percent of those who gained admissions to state universities were women (Institute for Research and Planning in Higher Education, 2002:3, 43). The latter statistics indicate future disparity in favour of women in the higher education system of Irān.

PRIMARY AND SECONDARY EDUCATION

The analysis of the trend in education from 1990 to 2000 points to increased gender equality at primary and secondary levels of education. The trend in access to primary education in terms of gross intake rate (GIR) shows a gender parity index of 0.98 in 1990–19991 and 1 in 1999–2000, indicating parity between sexes in that year. The net intake rate (NIR) in primary education in 1999–2000 was a total of 38.4, with a male rate of 38.7 and female rate of 38, pointing to a GPI of 0.98 (UNESCO, 2002: 234–235).

Looking at participation in primary education for children age 6 to 10 in terms of gross enrolment ratio (GER), one notes a shift from a GPI of 0.90 in 1990–19991 to 0.96 in 1999–2000. The total net enrolment ratio (NER) in 1999–2000 was 74.6 (75.3 male and 73.9 female), pointing to a GPI of 0.98 (UNESCO, 2002:242–243). As far as participation in secondary education (age 11 to 16) is concerned, there has been a shift from a total GER of 55.2 (63.7 male and 46.4 female) in 1990–1991 to a total GER of 80 (83.1 male and 76.7 female) in 1999–2000. Over the last decade, therefore, there has been a shift from a GPI of 0.73 to 0.92 (UNESCO, 2002:25–251), indicating increased parity between sexes. The net enrolment rates in secondary education are not available.

Moving beyond access to schooling, one should also assess gender equality throughout the school cycle by measuring the internal efficiency of the educational system. The proportion of pupils that reach Grade 5 (i.e. survival rate to Grade 5) is an important indicator of internal efficiency. There is considerable gender parity in terms of survival rate at the primary cycle in Irān. Looking at survival rates at Grades 4 and 5, one witnesses a GPI of 0.99 and 0.98 respectively. In 1990–1991, the total survival rate was 92.5 (92.8 male and 92.2 female) at Grade 4 and 89.9 (90.7 male and 89.1 female) at Grade 5 (UNESCO, 2002:247–275). Given the lack of statistics for more recent years, one cannot look at the trend over the last decade.

Yet another indicator of the internal efficiency of the education system is the percentage of repeaters. The repetition rate in primary education in Irān is lower for girls in Grades 1 through 5. In 1999–2000, the male repetition rate in Grade 1 was 10.2 compared to 7.9 female; 7.6 male and 4.7 female in Grade 2; 5.4 male and 2.9 female

in Grade 3; 6.1 male and 3.1 female in Grade 4; and 4.1 male and 2 female in Grade 5 (UNESCO, 2002:266–267).

According to UNESCO, increasing the proportion of female teachers is a measure of gender equality for two main reasons. Training and recruiting female teachers is an attempt to improve women's participation in the social and economic sectors. Furthermore, research has shown that using female teachers is a key strategy to facilitate girls' access to and retention in school (UNESCO, 2002:77). Available statistics point to a decrease in the percentage of female teachers at the pre-primary level from 99.8 percent in 1990–1991 to 96.8 percent in 1999–2000. During the same ten year period, however, there has been an increase in the percentage of female teachers at the primary level from 52.9 to 53.9 percent, and lower secondary level from 43.4 to 45.6 percent (UNESCO, 2002:258–259). As in most countries, there is a gender disparity in favour of men among math and science teachers (Bureau of Information Technology, 2001).

Based on the above statistics, one can conclude that although disparity in favour of boys still exists at the primary and secondary school levels, there has been considerable progress made towards gender equality in the Iranian education since 1990. Why? What are the reasons behind the gradual closing of the gender gap in schooling? Is the progress mainly due to school-related factors or out-of-school phenomena? An attempt will be made, in the next section, to answer these questions. The answer may be of special interest due to the fact that the establishment of an Islamic Republic in Irān, marked by fundamentalism and the rule of religio-political leaders, led many to believe that women will experience dramatic reversal in terms of their social, political, legal, economic, and educational status in society. Various setbacks notwithstanding, Iranian women have gained significant achievements in the realm of education. Why?

CAUSES OF INCREASED GENDER EQUALITY IN EDUCATION

To understand the underlying causes of increased gender parity in schools, one must analyze education within the social, political, and cultural context of post-revolutionary Iranian society. This is not to say that the educational system merely reflects the socio-political situation. This paper acknowledges a dialectical relationship between

education and society, whereby schools reflect macro-level changes at the societal level while, at the same time, the society at large is affected by transformation within the educational system and the increased number of the educated, especially women. The following analysis will, therefore, study both in-school and out-of-school factors that could explain progress in closing the gender gap in Iranian education. It will analyze the nature of the revolution, the status of Iranian women, and the role of political will and popular demand to address the issue.

THE STAGES OF THE REVOLUTION AND THE 'QUESTION OF WOMAN'

Irān has undergone three distinct stages since the 1979 revolution. The "question of woman" and her role and responsibilities have been addressed in each stage. A fourth stage may have begun since the election of President *Mahmood Ahmadi-Nejād* in June 2005. At this point, however, it is too early to assess the impact of the new government on female education in Irān. The first stage, encompassing the 1979–1988 period, focused on the consolidation of the Islamic Republic as the new form of state rule in Irān. This period was marked by domestic turmoil, political violence, war, economic austerity, international tension, and political isolation. It was also a time during which ideology was in command and strict Islamic measures were enforced. The exemplary citizen of this stage was a "doctrinaire" Muslim and a "committed" revolutionary whose ideal was self-sacrifice and, ultimately, martyrdom for the cause of the revolution.

The primary goal of the religio-political leadership at this time was the Islamization and politicization of society. Islamization within the Iranian context refers to the deliberate attempt to implement Islamic laws and regulations in private and public domains and to integrate religion and politics in all spheres of life. Politicization is the process by which Iranians are to be transformed into the "soldiers of the revolution," dedicated to the cause of establishing an Islamic society, and loyal to the religio-political leadership. During this period, the revolutionary government acted as an equalizer and aimed

at providing opportunities for the neglected and marginalized sectors of the society known as the "dispossessed." Meanwhile, there was a conscious attempt to Islamize and politicize women, the most ideal of whom were, at the time, mothers who raised pious Muslims and revolutionary soldiers seeking martyrdom.

The second stage (1988–1997), known as the period of reconstruction, focused on the need of reconstruction, after a devastating eight-year war with Iraq which was imposed on Irān. The post-war Irān witnessed liberalization, privatization, increased levels of political exchange, and reduced isolation in the international arena. Revolutionary ideals and active politicization coexisted with increased interaction with others, thus opening the doors of a formerly closed society. The new terminology included such words as economic growth, population control, and specialization. This period may be viewed as a transitional phase that prepared the ground for the next stage. During this period women were encouraged to participate in all arenas of social, educational, political, and economic life and contribute to the post-war reconstruction.

The period from 1997 to 2005 is known as the reform period during which such terms as civil society, political development, tolerance, religious democracy, dialogue of civilizations, citizenship rights and responsibilities, and meritocracy were permeating the air. While some continue to present a strict version of the Islamic and revolutionary ideology as the "true spirit" of the Islamic Republic, others aim at introducing a more "gentle version;" one that does not demarcate between the "self" and the "other" and seeks domestic and international dialogue based on mutual respect and understanding. The rights-based approach of this period no longer views women as instruments of the revolutionary ideology or economic growth. Instead, it seeks to empower woman for her own sake and raise her consciousness regarding her rights and responsibilities.

Women from different strata of the society have used the terminology of the three stages to their own advantage in various fields, including education. Once educated, women have, in turn, contributed to the transformation of gender relations in society. In other words, the exigencies of the three stages have called for the creation of an ideal female citizen based on the priorities of that

period. Furthermore, the leaders of each stage have called upon the schools to educate the ideal woman of each period. Interestingly, women have benefited from the attempt to Islamize and politicize them during the first stage; provide education and employment for them during the second period; or empower them for a society based on meritocracy in the third phase. Let us see who the ideal female citizen of the Islamic Republic is.

CHARACTERISTICS OF THE NEW MUSLIM WOMAN

The ideal female citizen in the Islamic Republic of Irān —the New Muslim Woman— is the product of the coexistence of tradition and modernity. She is thus faced with a paradox (Mehran, 2003). On the one hand, she is expected to fulfil her traditional role as the "pivot" of the home; a dedicated wife and mother; and the source of stability and tranquillity in the family. At the same time, she is also expected to be an active member of her revolutionary society. Expected to be a "soldier of the revolution," an Islamized and politicized wife and mother, or an educated citizen —depending on the dictates of the time— the ideal woman is to play different and apparently contradictory roles. The dual role and responsibility of the post-revolutionary woman is clearly reflected in the Constitution of the Islamic Republic of Irān. It "considers women's employment and their social and economic activities to be very meaningful and conducive to social well-being" while, at the same time, emphasizing the role of the woman "as a mother and her significance in maintaining strong family bonds and affectionate relationships" (Women's Bureau of the Presidential Office, 1997:58).

The active presence of women in the 1979 revolution that led to the recognition of their power and rights, and their refusal to "return to the kitchen" afterwards, opened the doors for a range of Iranian women from diverse social, economic, political, cultural, and family backgrounds. Whether seeking tradition, modernity, or the coexistence of both, the Iranian women have found their own niche. The educated, socially conscious women of Irān strive to raise awareness, overcome obstacles, change women-unfriendly rules and regulations, fight gender discrimination, and thus pave the road for today's girls and tomorrow's women. They have, in the process, acted as role models

for the younger generation who is more aware of her rights and actively seeks to gain access to opportunities available in various arenas, especially education.

An analysis of the active presence of women and the coexistence of political will and popular demand will illustrate how supply and demand of education have benefited women bringing about increased gender parity in schools.

REVOLUTIONARY IDEOLOGY AND THE POLITICAL WILL

The revolutionary ideology of the Islamic Republic, as mentioned earlier, has been based on three pillars: Islamization, politicization, and equalization (Mehran, 2000). All three components have been crucial in shaping the content and direction of education at all levels. Islamization and politicization aimed at socializing the young and turning them into pious Muslims, committed to the revolutionary cause. Further research is needed to assess whether or not the "children of the revolution" have internalized the values instilled at schools. What has clearly been achieved, however, is an increased equalization in the realm of education. Providing educational opportunities for the deprived and dispossessed members of the society and reaching the unaffected, in poverty-stricken remote areas, has been a significant achievement of the post-revolutionary period. Girls and women have been major beneficiaries of the revolutionary ideology that views education as an equalizer.

Education has been ranked as a priority for the Iranian government, especially at the primary and secondary school levels. In 1999–2000, the total public expenditure on education (as percentage of total government expenditure) was 18.3 percent (UNESCO, 2002:283). In 1997, first and second level education expenditure (as percentage of public education expenditure) was 72.1 percent (Plan and Budget Organization, 1999:155). In 1999–2000, the public current expenditure on education (as percentage of total expenditure on education) was 91.4 percent. Education in Irān is, for the most part, in the hands of the public sector and private institutions play a minimal role. In 1999–2000, private enrolment (as percentage of total enrolment) was 12.7 percent at the pre-primary, 3.3 percent at the primary, and 5.4 percent at the secondary level (UNESCO, 2002:282–283).

The political will of the Islamic Republic in raising awareness about the importance of female schooling and highlighting the existing shortcomings is reflected in the establishment of specific institutions to address gender equality in education. The establishment of the Bureau of Women's Affairs (affiliated with the Office of the President) in the early 1990s, later replaced by the Centre for Women's Participation in 1997, was an important initiative to focus on the condition of women, address their concerns, and increase their participation in various areas, including education. The Centre has set up special women's units in various ministries and government organizations, among which is the Bureau of Women's Affairs at the Ministry of Education. The mandate of the latter is to "campaign against undesirable gender attitudes" (Plan and Budget Organization, 1999:91). The Bureau organizes workshops and seminars at all levels of the Ministry of Education to raise awareness about the need for gender sensitivity in schools and among teachers and school administrators. It also finances research projects to study the impact of gender stereotyping in textbooks and gender discrimination in the curriculum. The Bureau periodically seeks the cooperation of various United Nations agencies, university research centres, university faculty members, and centres for women's studies to accomplish its mission.

The political will of the Islamic Republic to provide educational opportunities for girls and women and create the New Muslim woman is illustrated in a variety of plans. The 1988 *General Plan of the System of Education in the Islamic Republic of Irān* addresses female education in the following principles:

- The Ministry of Education should eliminate any form of discrimination against girls, especially in the rural areas and among nomads, and give priority to girls in the distribution of resources and opportunities.
- Women should participate in the planning, policy making, management, and administration of education at all levels, especially at the top level positions.
- The Iranian educational system should recognize the identity of a woman and her role in the family and the society on the basis of Islam and plan for the content and method of her schooling accordingly.

- The educational guidance of girls should be based on their capabilities and interests, and their vocational guidance should take into consideration the kinds of occupations needed by women, best fulfilled by women, or most fit with their role and responsibility in the family.
- Curriculum development in Irān should emphasize the sanctity and stability of the family and introduce the different roles of men and women in marital life.
- Education in Irān should strengthen the social and political insight of girls and increase their self-confidence in fulfilling the social and family responsibilities (Council of Fundamental Transformation, 1988:57, 64–65, 66, 72, 73, 82).

The above-mentioned principles illustrate the commitment of the government to the cause of girls' schooling as well as the task it assigns to female education—namely, the Islamization and politicization of women and the preservation of the family.

The First Economic, Social, and Cultural Development Plan of the Islamic Republic 1989–1993 also addresses female education and states the following goals:

- Improving the condition of women through education and increasing women's participation in the socio-economic affairs of the society and family.
- Bringing about a higher level of participation among women in social, cultural, educational, and economic affairs while maintaining the values of the family and the character of the Muslim women (Plan and Budget Organization, 1989:27, 37).

The ***Second Development Plan (1994–1998)*** briefly touches on the issue of female education by stating the following as a goal: "Paying attention to the education of girls and the literacy training of women and young mothers" (Plan and Budget Organization, 1993:7–2).

The 2001 ***National Report on Women's Status in the Islamic Republic of Irān***, published by the Centre for Women's Participation, Office of the President, clarifies the female education priorities of the period covered by the ***Third Development Plan (1999–2003)***. This document reflects the concerns of its time and demonstrates a deep transformation in the approach to gender and education by calling for

increased gender sensitivity in all aspects of schooling. The report specifies the following as the priorities of female education:

- Revise existing (education) laws that are gender biased.
- Reduce gender gaps in the fields of science, mathematics, and applied sciences.
- Modify educational materials in order to portray the correct image of women's roles in the family and society and of the mutual rights of women, men, and the family at all levels.
- Emphasize the participation of female specialists in planning and policy making at all levels of education.
- Develop and promote counselling services in high schools to prepare and guide students towards more appropriate fields of study in order to eliminate the concentration of female university students in certain majors.
- Determine a particular quota for creating equal opportunities for women in a number of specific university majors.
- Teach management skills to women with the aim of enhancing their participation in the sphere of decision-making.
- Expand and diversify technical and vocational training programs for women with a view to creating employment opportunities (Centre for Women's Participation, 2001:15–19).

The principles of female education in Irān, reflected in the various plans mentioned, have guided the policies and actual measures undertaken by the Ministry of Education to facilitate girls' access to and retention in school since the 1979 revolution.

POPULAR DEMAND

The political will of Iranian leaders to provide educational opportunities for girls has been accompanied by popular demand such that, at times, the demand far exceeds the supply. It is important to understand the underlying causes of increasing family demand for education and identify the most important in-school and out-of-school elements involved.

The expansion of schooling throughout the country as part of the revolutionary ideology that aims at equalizing educational opportunities and reaching the marginalized sectors of society, has led to increased female enrolment, especially at the primary level where

more facilities are available. Furthermore, the existence of educated female role models in the popular realm has shattered the stereotypical image of women among the Iranian families and encouraged them to send their daughters to school. There is an increasing number of female teachers, university professors, researchers, health workers, scientists, physicians, artists, writers, poets, film makers, lawyers, athletes, and journalists whose activities are visible at the local and national levels. They are further introduced to the public via innovative measures such as the celebration of woman's day, during which a range of women from diverse backgrounds and occupations are introduced through the media. The existence of female role models in various public positions raise the consciousness of both girls and their families regarding the options available for women and the importance of education as the necessary means to gain access to such positions. The increasing presence of educated women at home and in the public realm encourages girls and their families to view education as an asset. Even those who believe that the "right" place for women is at home, gradually recognize the fact that an increased level of schooling for women makes them better wives and mothers in terms of family nutrition, health, well-being, and impact on children's educational achievement.

The importance of the above factors notwithstanding, a determining factor leading to increased demand for girls' schooling has been the "Islamization" of education in the post-revolutionary period. In fact, traditional measures undertaken by the religio-political leadership to Islamize schools have assured traditional families that the school climate is not in conflict with the values cherished at home. Thus while close observers of schooling in the post-1979 era were wary about whether creating a religious climate in schools might hinder girls' participation in education and push them to the periphery, the reality was that traditional measures played an important role in removing earlier reservations by more conservative members of the society to send their daughters to school.

The traditional educational policies introduced shortly after the 1979 revolution were as follows: banning co-education at all levels of schooling except at the universities; assigning female teachers to girls' schools and male teachers to boys' schools; changing the content and

pictures of school textbooks to portray a traditional division of labour between men and women in the private and public spheres; introducing compulsory veiling for all female students and teachers; directing students towards "male- or female-oriented" fields of study based on their sex; and barring women from entering "masculine" disciplines at the university. Although some of the above measures have changed or loosened over time, they have acted as an assurance for more conservative families that their daughters would be studying in an Islamic setting.

One can see a cycle in female education in Irān in which the ruling elite seeks to educate the ideal female citizen according to the dictates of an Islamizing and revolutionary society, thus creating a generation of educated women who, in turn, influence their society and act as role models for young girls, who then seek education as a means of equality and empowerment.

THE REMAINING CHALLENGES

Despite significant achievements in female schooling and considerable progress towards gender equality in Iranian education, the battle is not over yet. Quantitative and qualitative shortcomings continue to exist in the realm of education while the broader participation of women in society is far from ideal. In fact, the dramatic increase in the number of educated women in Irān is not reflected in their participation in political and economic life, although there has been some improvement in recent years.

Since gender equality in education is part of gender equality in society at large, it is important to view the educational status of women within the broader framework of female participation in the social, political, and economic arenas. The active presence of women at all levels of public life, especially at higher levels of planning, politics, and administration where they are most visible, will act as an incentive for younger women to seek further education. At the same time, an increasing number of educated women will, in turn, pressure the current leadership to provide opportunities in spheres traditionally dominated by men. The following section will illustrate the current status of Iranian women in the public realm.

While 43 percent of Iranian university graduates are female (Institute for Research and Planning in Higher Education, 2001:60), the level of women's participation in the political and economic spheres is low. According to the statistics provided by the Plan and Budget Organization, the rate for female unpaid family workers (as percentage of the total) is 46.5 percent, compared to 32.9 percent female professional and technical workers, 16.9 percent female clerical workers, 12.8 percent female administrators and managers, and 5.2 percent female sales and service workers. In Irān, the female economic activity rate (as percentage of the male rate) is 14.2 percent; women's share of adult (age 15 and above) labour force is 12.2 percent; and women's share of earned income is 9.4 percent. At the same time, 5.2 percent of the seats in the parliament are held by women and there are no women in the government at the ministerial level. In 1997, the gender-related development index (GDI) value in Irān was 0.579 and the gender empowerment measure (GEM) value was 0.300 (Plan and Budget Organization, 1999:146–166).

Further research is needed to determine whether the low level of female participation is a result of social, political, and cultural obstacles or based on the choices made by women themselves. Cultural values that emphasize domesticity; women's preference to remain home while their children grow; family pressure to choose the private as opposed to the public realm; gender biased rules and regulations that discriminate against women; and the existence of a glass ceiling in various professions present the range of reasons for women's low economic activity in the formal sector.

The question that remains is whether families can "afford" to keep women at home in a period during which a single pay check is no longer sufficient to run the household. Furthermore, how long can educated women be kept on the sidelines without economic, political, or moral justification? The rights-based view of the status of women in society and the new generation of educated Iranian women will undoubtedly seek to transform the existing status quo.

Shortcomings in the realm of education exist mainly in terms of access to schools and the content of schooling. A glance at the number of out-of-school children shows that in 1999–2000, a total of 2,398,000 children were not enrolled in schools, 49.9 percent of whom

were girls (UNESCO, 2002:292). In order to identify the factors that lead to girls remaining out of school, a field research was conducted at the national scale during the 1993–1995 period in a joint Ministry of Education-UNICEF, Tehrān Girls' Education Project (the author was education consultant to UNICEF for this research). In-depth interviews were conducted with out-of-school girls, their families, and school teachers/principals in provinces with the highest gender gap in education, to understand the underlying causes of girls' lack of access to or drop-out from primary schooling. The results of the study pointed to the existence of three categories of hindering factors — namely, cultural, economic, and educational. The most frequently stated issues were as follows: cultural factors (traditional thinking regarding the uselessness of education for girls; prioritizing the education of boys over girls); economic factors (financial poverty; mothers' need for the help of girls in housework; the family's need for the economic, income-generating activities of girls); and educational factors (absence of female teachers; co-educational schools). It should be noted that a number of the factors categorized as economic and educational, have strong cultural overtones (Ministry of Education, 1995; Mehran, 1997). The fact that both in-school and out-of-school factors restrict girls' access to schooling conveys an important message for educational planners and policy makers that a multi-faceted approach is needed to correct the situation.

Gender disparity in education is quite visible when one compares male and female enrolment patterns at the secondary school level. The distribution of students during the 1999–2000 academic year was 43 percent female and 57 percent male in the mathematics-physics branch; 62 percent girls and 38 percent boys in experimental sciences; 55 percent female and 45 percent male in literature; and 30 percent girls compared to 70 percent boys in the technical-vocational branch (Bureau of Women's Affairs, 2002:29). Additional problems in secondary education include shortage of female teachers in mathematics and sciences; limited number of women in management and decision-making positions; low rate of female enrolment in remote rural/nomadic areas; and insufficient attention to girls' technical-vocational education. Furthermore, a content analysis of primary and secondary textbooks demonstrates that school books continue to

present a traditional division of labour in the private and public realm. Gender stereotyping prevails in textbooks in which men and women are portrayed in traditional gender roles assigned to them (Ferdows, 1994; Higgins and Shoar-Ghaffari, 1991; Mehran, 1989; Touba, 1987).

RECOMMENDATIONS

Despite quantitative gains in female access to and retention in schools, much more needs to be done to bring about gender parity in education. Practical recommendations based on the field research conducted in 1993–1995 (Mehran, 1997), pointing to cultural, economic, and educational factors that lead to girls' lack of access to schooling are as follows.

1. Seeking the help of trusted community leaders to convince more conservative families that education is an asset for girls;
2. Training and recruiting local female teachers in areas in which the presence of male instructors has resulted in family refusal to send their daughters to school;
3. Building schools closer to communities in which distance to school is a hindering factor for girls; and
4. Establishing girls' dormitories especially at the secondary school level for students who live in remote, less populous rural/nomadic areas where there are no high schools for girls.

General recommendations that can guide long-term action in the quest to bring about further gender parity in Iranian education include:

1. Developing a gender sensitive school curriculum;
2. Removing stereotypical images of men and women from textbooks;
3. Transforming the traditional mentality that directs female students away from what have been labelled as "male-oriented" fields of study;
4. Providing gender training for teachers; and
5. Raising awareness among instructors to avoid conveying a "message of inability or inadequacy" to female students.

The above are important qualitative measures that need to be undertaken to eliminate gender discrimination in schools.

Empowering male and female students to make choices that match their interest and abilities and are close to their hearts is the

future challenge of an educational system that seeks gender parity at all levels. It should be emphasized that a true gendered approach to education must take into consideration the needs and abilities of boys as well as girls and attempt to eliminate the measures that put either of them at a disadvantage. In sum, using a gender lens to assess the educational status of both boys and girls and analyze how and why schools short-change them is of key importance in providing education for all.

REFERENCES

1. Bureau of Information Technology. 2001. ***Education Statistics, 2001–2002 Academic Year*** (In Persian: Āmār-e Āmoozesh va Parvaresh, Sāl-e Tahsili-ye 1380–1381). Tehrān, Irān: Bureau of Information Technology, Ministry of Education, Islamic Republic of Irān.
2. Bureau of Women's Affairs. 2002. ***The Human Rights of Women*** (In Persian: Hoghoogh-e Ensāni-ye Zan). Tehrān, Irān: Bureau of Women's Affairs, Ministry of Education, Islamic Republic of Irān.
3. Centre for Women's Participation. 2001. ***National Report on Women's Status in the Islamic Republic of Irān***. Tehrān, Irān: Centre for Women's Participation, Office of the President, Islamic Republic of Irān.
4. Council of Fundamental Transformation in the System of Education. 1988. ***The General Outline of the System of Education in the Islamic Republic of Iran*** (In Persian: Tarh-e Kolliyāt-e Nezām-e Āmoozesh va Parvaresh-e Jomhoori-ye Eslāmi-ye Irān). Tehrān, Irān: Council of Fundamental Transformation in the System of Education, Ministry of Education, Islamic Republic of Irān.
5. *Ferdows, Ādelé*. 1994. "Gender Roles in Iranian School Textbooks." In ***Irān: Political Culture in the Islamic Republic*** edited by *Samih K. Farsoun* and *Mehrdād Mashāyekhi*. London, UK: Routledge.
6. *Ghiāsi, Minoo*. 2000. ***A Study of the Trend in the Educational Status of Women in Higher education in Iran (Public Sector) from 1990 to 1999*** (In Persian: Barresi-ye Ravand-e Vaz'iyat-e Āmoozeshi-ye Zanān dar Āmoozesh-e Āli-ye Irān (Bakhsh-e Dowlati) az Sāl-e 1369 tā Sāl-e 1378). Tehrān, Irān: Institute for Research and Planning in Higher Education, Islamic Republic of Irān.
7. *Higgins, Patricia J.*, and *Pirouz Shoar-Ghaffari*. 1991. "Sex Role Socialization in Iranian Textbooks." ***National Women's Studies Association Journal*** 3(2):213–232.
8. Institute for Research and Planning in Higher Education. 2001. ***National Report on Higher Education in Iran*** (In Persian: Gozāresh-e Melli-ye Āmoozesh-e Āli-ye Irān). Tehrān, Irān: Institute for Research and Planning in Higher Education, Ministry of Science, Research, and Technology, Islamic Republic of Irān.
9. Institute for Research and Planning in Higher Education. 2002. ***Higher Education Statistics of Iran, 2001–2002 Academic Year*** (In Persian: Āmār-e Āmoozesh-e Āli-ye Irān, Sāl-e Tahsili-ye 1380–1381). Tehrān, Irān: Institute for Research and Planning in Higher Education, Ministry of Science, Research, and Technology, Islamic Republic of Irān.
10. *Mehran, Golnar*. 1989. "Socialization of Schoolchildren in the Islamic Republic of Iran." ***Iranian Studies 22***(1):35–50.

11. *Mehran, Golnar*. 1997. "A Study of Girls' Lack of Access to Primary Education in the Islamic Republic of Iran." ***Compare 27***(3):263–276.

12. *Mehran, Golnar*. 2000. "A Study of the Facilitating Factors in Girls' Education in Post-Revolutionary Iran." (In Japanese). Pp. 107–123 in ***True and False Images of Islam in Cultural Frictions***. NIRA Research Report No. 19990127. Tokyo, Japan: National Institute for Research Advancement.

13. *Mehran, Golnar*. 2003. "The Paradox of Tradition and Modernity in Female Education in the Islamic Republic of Iran." ***Comparative Education Review 47***(3):269–286.

14. Ministry of Education. 1995. ***Report on the Research Findings*** (In Pesrsian: Gozāresh-e Natāyej-e Tahghigh). Joint Girls' Education Project of the Ministry of Education and UNICEF-Tehrān. Tehrān, Irān: Ministry of Education, Islamic Republic of Irān.

15. Plan and Budget Organization. 1989. ***The First Economic, Social, and Cultural Development Plan of the Islamic Republic of Iran 1989–1993*** (In Pesrain: Barnāmé-ye Avval-e Towse'é-ye Eghtesādi, Ejtemā'ï, va Farhangi-ye Jomhoori-ye Eslāmi-ye Irān 1368–1372). Tehrān, Irān: Plan and Budget Organization, Islamic Republic of Irān.

16. Plan and Budget Organization. 1993. ***The Second Economic, Social, and Cultural Development Plan of the Islamic Republic of Iran 1994–1998*** (In Persian: Barnāmé-ye Dovvom-e Towse'é-ye Eghtesādi, Ejtemā'ï, va Farhangi-ye Jomhoori-ye Eslāmi-ye Irān 1373–1377). Tehrān, Irān: Plan and Budget Organization, Islamic Republic of Iran.

17. Plan and Budget Organization, and the United Nations. 1999. ***Human Development Report of the Islamic Republic of Iran 1999***. Tehrān, Irān: Plan and Budget Organization of Islamic Republic of Irān and the United Nations.

18. *Touba, Jacquiline Rudolph*. 1987. "Cultural effects on sex role images in elementary schoolbooks in Iran: A content analysis after the revolution." ***International Journal of Sociology of the Family 17***:143–158.

19. UNESCO. 2002. ***Education for All: Is the World on Track?*** Paris, France: UNESCO.

20. Women's Bureau of the Presidential Office. 1997. ***National Report on Women***. Tehrān, Irān: Women's Bureau of the Presidential Office, Islamic Republic of Irān.

Author

Golnār Mehrān, Ph.D.,
Department of Education, Al-Zahrā University
jjalali@yahoo.com

Associate Professor of Education, Al-Zahrā University, Tehrān, Irān.

She received her master's degree at Harvard University, Cambridge, Massachusetts, and PhD at the University of California, Los Angeles, California specializing in comparative and international education. She has acted as education consultant to UNESCO, UNICEF (Irān, Jordan, Oman), and the World Bank. Her research interests include gender and education, the socialization of schoolchildren in post-revolutionary Irān, and the transformation of value in Iranian education since 1979.

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 33 - 49

Indices of Gender Development and Women's Egalitarianism in Irān

Khadijé Safiri, Ph.D.
Department of Family and Women's Studies, Al-Zahrā University

Abstract

The situation of women in post-Revolutionary Irān has been under scrutiny by domestic as well as foreign investigators. The existing situation is described by some as "improper" due to the prevalence of a patriarchal society. Another perspective attempts at highlighting the scientific status achieved by the Iranian women in recent years. This article, based on the current perspectives, probes the Iranian women's situation taking into account gender development indices and compares the indices with those of other nations. The article utilizes the library and secondary data analysis methods. Based upon empowerment theory, the present study investigates factors constituting the general context, those contributing to changing women's situation, as well as factors that act to alter the ranking of the gender development indices. Such factors include an increase in the age of marriage, the decrease of fertility, popularization of secondary schooling, and a rise in number of women who enter the universities, all of which help to promote the conditions for women's egalitarianism. Nonetheless, in the areas of employment and management, women's shares remain lower than those of men. Yet, the prevailing circumstances are indicative of an improvement, as women strive for egalitarianism and equal opportunities.

Keywords

The Iranian Women Situation; Gender Development Indices; Women's Egalitarianism; Equal Opportunity; Male-Dominated Society;

INTRODUCTION

Carrying out investigation on status of the post-revolutionary Iranian women is fraught with difficulties today. Such difficulties are rooted in varying perspectives derived from extensive and numerous studies conducted on status of women belonging to the Islamic societies of the Middle East and of elsewhere. Two examples of such divergent perspectives, for instance, are published by the ***Signs*** journal (Majid, 1998; Mayor, 1998).

Mayor (1998) considers Irān as typical example of a patriarchal society. He sees the Islamic cover imposed on women by the clerics as evidence supporting his claim. *Majid* (1998), on the other hand, admires Irān and the Iranians, citing the higher ratio of female university teachers in Irān, as compared with those of Germany and the USA in 1997 and that of France in 1980, to consolidate his position.

Stating such contradictory views by the Iranian as well as foreign investigators inside and outside Irān, on status of the post-revolutionary Iranian women merits a closer scrutiny. It is essential to note that Irān is located in a region that *Caldwell* calls it patriarchal belt (quoted in Moghaddam, 1992), a region encompassing South Asia, North Africa and the Middle East. Another researcher considers the Middle East and North Africa to constitute the world's widest gender gap; holding that women of this region are continually marginalized, as far as education and work are concerned. They are ranked lower than their counterparts in other regions of the world, they bear many children in short spacing, thus endangering their own health and that of their children as well (quoted in Kāzemi, 2000).

A preliminary and comparative study (KāzemiPour and Safiri, 2001) concerning the situation of the Iranian women before and after the Islamic Revolution of 1979 showed a more favourable situation, as compared to the past, for women in terms of employment and social presence. This study argues that the liberating impact of the revolutionary movement not only has led to changes in the situation of the Iranian women but it also transformed the nature Islamic teachings in that it brought women closer to gender egalitarianism. The above study, in light of granting right of divorce to women, along with control over economic life via employment, particularly in specialized

occupations, evaluates the situation of the Iranian women, even better than that which exists in some Western countries.

STATING THE PROBLEM

Today the exposition of women's issues, gender inequality in particular, is an ongoing project undertaken by both the advanced and developing nations. The project is of interest, though variably, to the social science investigators; sociologists, psychologists, economists, jurists and so forth. Economically speaking, the theorists of development, having seen the failure of the previous development models, sought to adopt a new development approach, one which would attempt to take into account a separate, detailed, and specified status for women and men and consider an equality-oriented model for opportunities at hand. In order to take the right path leading to development, each society acts on the basis of its own socio-cultural background. The acquisition of experts' knowledge on these societies can help to provide the best possible model of development applicable in a given region. The Iranian society has been studied by various indigenous and outside investigators in the years following the Islamic Revolution. The contradictory perspectives alluded to earlier, should not serve to complicate the problem under the study. Disregarding the individuals' positions, if we consider women's situation on the basis of indices pertaining to human and gender development, indices which have been standardized during the years after the Islamic Republic took shape, we would be able to demonstrate the occurrence of change. Such an approach will point to the reason why such a heading was chosen for this paper: Women's Egalitarianism.

THE MAIN QUESTIONS

1. What is Irān's ranking among other nations, in terms of trend change pertaining to gender development?
2. What are the background factors contributing to changing situation of the Iranian women?

METHODOLOGY

The present research utilizes the method of secondary data analysis. The data provided by the United Nations Human Development Reports of various years, as well as data furnished by Statistical Centre of Irān. These and other relevant pieces of evidence and documents constitute the information base of this research. Thus, here are presented some cases that are based on our data-supported calculations. These calculations, in our view, make it possible to present a viable analysis of status of the post-revolutionary Iranian women.

Status of the Iranian Women (from 1979 to the present)

Three decades have passed since the inception of the Islamic Republic of Irān. Today, based on universal indices of development, we can attempt to determine whether the term 'patriarchal' is apt to explain the visage of women as exhibited in various fields of activity within the Iranian context. On the other hand, we explore the possibility which may exist, one which points to 'egalitarianism' as a sound indication of the situation in which the Iranian women are found.

Today, one of the most important achievements of the world's development is the emphasis many investigators place upon the status which women occupy within the development process. In other words, investigators are keen to determine to what extent women are being affected by the development process that a given nation is undergoing? Various views are expressed about the negative effects that development process bears upon women. A welfarist view, aiming to reach the vulnerable strata (women) reminds us that our world, parallel to the emphasis being placed on Human Development Indices, has also been considering Gender Development Indices whose main target is to propound the existing inequalities between women and men, and whose ultimate goal is to introduce Women Empowerment Indices within the arenas of the workplace and that of the management, that is within the political structure and higher echelons of decision making processes. Human development indices, based on the ***Human Development Reports*** of various years are indicative of the operations of three main indices: index of life expectancy at birth, index of adults' literacy rate, and the purchasing

power index, that is the income earned, all of which would act to determine a country's ranking situation. The question is that what is it which can enable us to specify women's situation versus that of men? The answer seems to be a development index in terms of gender. Given this index the ranks already assigned to a given country may somewhat be altered. In this regard, even many advanced countries would encounter difficult tasks in removing discriminations and inequalities being rendered more visible through the use of the gender index, and which exist between men and women. **Table 1** describes Irān in terms of gender development index in various years. The gradual growth of Gender Development Index points to Irān's upward tendency in this regard.

Table 1. The Process of Gender Development in Irān (1992–2001)
(United Nations Development Programme, 1995; 1998; 2003)

Year	Value of Gender Development
1992	611%
1995	643%
1999	696%
2001	702%

Table 2 indicates that despite the fact that the rank of Human Development Index in Irān has fallen, yet Irān's rank in terms of Gender Development Indices have increased from 92nd to 86th.

Table 2. A Comparison of Irān's Rank in Human Development and Gender Development
(United Nations Development Programme, 1995; 1998; 2003)

Year	Rank in Human Development	Rank in Gender Development
1998	78	92
2003	106	86

Such a changing situation is described in **Table 3**, which presents the indices separately:

1. The Life Expectancy Index. A comparison of men's and women's situation (above) indicates that almost in all years (except

1970) women lived longer than men did and that there was no gender gap.

Table 3. Trend Change of Life Expectancy Index in Terms of Gender (1970–2000)
(United Nations Development Programme, 1995; 1998; 2003; World Bank, 2000)

Year	Women's Life Expectancy (years)	Men's Life Expectancy (years)
1970	54.0	55.0
1992	66.0	65.0
1995	69.1	67.9
1998	72.0	70.0
2000	71.3	68.5

2. The Education Index. Table 4 shows that there is inequality between women and men, although the extent of gender gap in education decreases gradually and an upward trend is apparent.

Table 4. Trend Change of Men's and Women's Education Index (1992–2001)
(United Nations Development Programme, 1995; 2003)

Year	Adults' Literacy Rate		Adults' Enrolment at 3 levels	
	Women	Men	Women	Men
1992	55.0%	74.5%	61.3%	73.6%
1995	59.3%	77.7%	62.6%	67.0%
2001	70.2%	83.8%	63.0%	66.0%

3. The Index of Earned Income. Table 5 illustrates that women's share of the earned income, compared to men's share, is very little. Yet the difference decreases gradually so that the gender gap dwindles. The increase in women's share of per capita income is the result of employment rate. The economic activity, against which wages and benefits are gained, increases women's share of per capita income. **Table 6** shows the extent of women's involvement in the economic activity, as provided by two ***Human Development Reports***, and compares it with similar data on the developing as well developed nations.

The extent of women's involvement, considering two years under the comparison, has increased considerably, and more progress is expected to occur.

Table 5. Share of Earned Income Received by Men and Women in Irān (1998–2001)
(United Nations Development Programme, 1995; 1998; 2003)

Year	Women's Share of Per Capita Income	Men's Share of Per Capita Income	Gender Gap in Terms of Income
1988	7.6%	92.4%	84.8%
1992	14.9%	85.0%	70.2%
1995	18.9%	81.1%	62.6%
2001	21.84%	78.16%	56.32%

Table 6. A Comparison of Women's Involvement in Economic Activity in Various Nations
(United Nations Development Programme, 1998; 2003)

Nation / Year	Norway	Canada	Germany	Venezuela	Lebanon	Turkey	Irān
1998	84	82	72	50	39	57	32
2003	85	82	70	54	39	62	38

The data so far surveyed are indicative of a change in the situation of gender development indices in Irān within the last seven years (1995–2001). In other words, in the present circumstances of Irān, women occupy a position which has rendered them capable of acquiring more opportunities. On the other hand, examining other social and demographic factors such as rising age of marriage, fertility reduction, universality of education to the level of the secondary schooling, women's active presence in universities and an increase of women's role in decision-making, all can shed more light on women's situation and thus portray an accurate picture of the contemporary Iranian women. Evidently, the reason for considering social and demographic factors is that they provide the context for women's upward move. Without such a consideration, the explanation of the growth of gender development indices is not feasible.

Here, we will discuss empowerment theory, as it constitutes one of new approaches in development. Based upon empowerment theory we try to assess the change in the Iranian women's situation that is to determine whether or not such a change has been in the direction of empowerment.

The Empowerment Theory

Ever since the debate over the issue of "women and development" was launched, various approaches for defining the content of its programs have emerged in various historical periods. Generally, one may attempt to classify these approaches, or theories, in three generic categories: welfarist, poverty eradication, efficiency, and empowerment (Moser, 1989). Each of the above theories has its advocates but the theory of empowerment is more generally accepted and it is still being further developed and refined. The growth of empowerment theory was in part a reaction against criticisms put forward against the welfarist and poverty eradication theories which draw heavily from economics. Earlier we mentioned the failure of development programs previously adopted. An example of such failure is the theory of poverty eradication launched by the World Bank. This program not only did not lead to an improvement of women's situation but, based on the available data, worsened it (United Nations, 1993). Thus empowerment theory derives its impetus from the weaknesses of the former approaches. The subordinate situation of women is regarded by the empowerment theory not only as a result of patriarchy but also of exploitation and neo-colonial pressures exerted by the Western nations. Then, empowerment theory's roots can be seen as being manifested in the Third World literature. It shows that women's increased social presence is not an imported item. It is important, and rather ironic, to note that although women's issues may be seen worldwide as being fundamentally similar, yet the researcher is increasingly forced to see women's situation within the context of developing nation as "different". Given the accuracy of such an approach, to remedy women's problems, as seen in the developing countries, requires different planning and strategies.

The pivotal issue in the empowerment theory is "participation". In fact, participation is regarded as the main vehicle through which the aims of empowerment are achieved. These goals, or criteria, are: welfare, access, awareness, and control (over one's life). It is acknowledged that realizing women's "participation" is not an easy task in a patriarchal society. Thus what is initially needed is to strengthen women's presence which is potentially regarded as an empowering element per se. Within a "developing" context, and in

reality, it is a complex process to increase women's participation. The dismal appearance of women in high decision-making positions is a testimony to the fact as presented. Then, this in turn supports the view advocating increased women's political participation. Empowerment theory, considering unsuccessful results of the development programs, from which women did not benefit much, seeks to create a fundamental change that is to convert women from inactive agents to active, independent, and able agents. Women's empowerment is a process through which women will take hold of their own destiny and thus will be able to develop and enhance their own potential abilities, which have been overlooked and hidden through the operations of unequal gender practices. Attention will be drawn toward women's socio-economic situation when the existing levels of equality, operative in a society, are challenged and treated as a serious obstacle to development.

Thus, according to empowerment theory, direct participation in social life is, at the same time, both the result and the means of women's empowerment (Mosaffã, 1994). The empowerment theory was introduced by Susan Lange.

Based on this theory to create opportunities for women is to enable them to be not solely engaged with child bearing, rather to be involved in the area of family roles. Having more control over such family roles would enable women to participate in the social life more effectively. This is the means by which women will be empowered. The opportunity of accessing their own consciousness will be provided by the general and higher education which will turn their destiny to be determined by their own actions. Here we will consider the background factors which contribute to paving the road leading to women's readiness toward growth and enhancement.

Rising Age of the First Marriage. One of the factors contributing to the change of their situation is a delay in their marriage which now usually takes place after the completion of the upper secondary education (**Table 7**).

Declining Fertility Rate. Rising age of marriage results in fewer years available for fertility. There are other resultant factors. For instance, the desired number of children is reduced as women's awareness increases. Hence lower birth rate and population growth. A

reduction in population growth is a main factor contributing to development (**Table 8**).

Table 7. The Mean Age at the First Marriage for Women
(Statistical Centre of Iran, 2003)

Year	The Mean Age at the First Marriage
1976	19.7
1996	22.4
2002	23.5
2003	24.1

Table 8. Population Growth in Various Years
(Statistical Centre of Iran, 2005b)

Year	Rate of Population Growth
1956	3.1
1966	3.1
1976	2.7
1986	3.9
1991	2.5
1996	1.5

Rising Level of Girls' Awareness. An increase in the number of girls completing the upper secondary education coupled with rising number of their admission to universities within the years of 1992–2005 represent an improved situation for women as far as the acquisition of higher social positions is concerned (**Table 9**).

Table 9. Percent of Girls Completing Upper Secondary Education and their Admission to Universities*
(Statistical Centre of Iran, 2005b)

Academic Year	Girls Completing Upper Secondary Education	Girls' Admission to Universities
1992	44.97%	28.93%
1997	55.25%	42.68%
2001	55.59%	50.55%
2002	55.76%	51.91%
2003	55.56%	52.91%
2004	58.64%	53.94%
2005	59.11%	53.65%

* The figures represent the percentage calculated based on the total (girls and boys)

Furthermore, an increase in women's involvement in the economic activity from 32% to 38% represents an upward trend followed by better access to the general wellbeing and acquisition of higher income, all of which are indicative of an improved control over the resources (based on empowerment theory). Women's motion towards higher levels of involvement in the affairs of society is, of course, being observed also in the area of social activity. Women's NGO[1]'s has enjoyed a considerable growth in recent years. In addition, a change is currently noticed in women's activity in decision-making and decision-building institutions such as city-village Islamic Councils, and in their permeating the higher echelons of management positions.

The findings of a study carried out in Tehrān under the heading of "Attitudes and Socio-Cultural Behaviour", shows that the ratios of membership in associations by men and women are 10.7% and 6.3%, respectively. The ratios of participating in associations for men and women are respectively 23% and 25% (Mohseni, 2000).

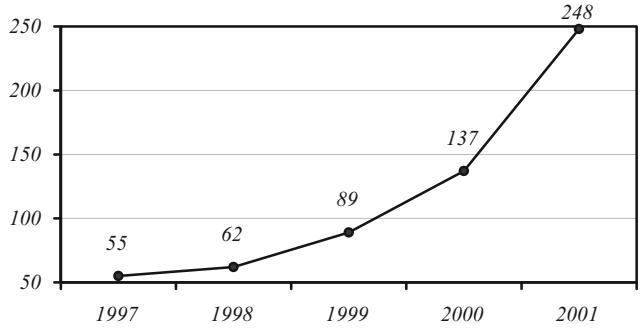

Diagram 1. The Growth of Non-Governmental Organizations
(Centre for Women's Participation, 2002)

Women also participate in city-village councils to decide on the issues involved. **Table 10** illustrates this fact.

Table 10. Women Elected to City and Village Councils
(Centre for Women's Participation, 2002)

Location	Number	%
Village	300	38
City	483	62

[1] Non-Governmental Organization

Viewed from a disadvantageous plane, women's little presence in senior management and high-ranking positions is a factor which acts to marginalize them. **Table 11** is illustrative of the fact that women's occupancy of such positions is very low. Such figures are dismal and reflect a cultural stereotype of man-woman difference and which in turn strengthens the agendum for discussing the dominance of patriarchal views in Irān.

Table 11. Occupational Grouping in Terms of Gender
(Statistical Centre of Iran, 2005a)

Occupational Group	Women	Men
Managers and Legislators	1.60%	1.90%
Specialists	20.60%	5.25%
Technicians	4.47%	4.00%
Administrative Clerks	5.50%	3.60%
Service and Sales Personnel	4.70%	12.20%
Skilled Agricultural Workers	30.40%	19.90%
Industrial Sector Workers	26.90%	17.60%
Operators of Motor Vehicles	0.50%	11.46%
Unskilled Workers	4.50%	14.47%
Total of Employees	**13.70%**	**86.3%**

If we look at **Table 11** more thoroughly we would see that the ratio of male managers to the total male employees is 1.9, while the same ratio for women is 1.6. This indicates that we are not dealing with a very wide gender gap in this regard. Such a view is further supported by the fact that among the category of specialist females include 20.6% of total woman employed, while the same figure for men is only 5.25%. Similarly, male industrial workers compose 17.6% of total male employees, while the same figure for women is 26.9. Such results show that about half of women employed in management and legislation are specialists or are those who have had industrial training. Holding these positions requires higher education and effective work experience. The available statistics indicate that women are highly capable in these fields.

Caution: The respective ratio of each occupational grouping is the result of dividing the relevant figure by total employees of that column (that is, men or women). Thus is derived the ratio of each female occupational grouping to the total women employed. For

example, if we assume the number of women as being 100, then 30.4% of them are classed as skilled agricultural workers.

Moreover, the extent of women's involvement in the economic activity can be taken as representing their enjoyment of higher levels of wellbeing, earnings, and access to more resources. On this score, Irān, in recent years has witnessed a 6% growth rate. It is expected that along with graduation of the current female university students, the employment situation be somewhat improved. The increase in number of women in decision-making positions and their increased social participation reflects their more active presence in NGO's and city-village councils in order to gain positions.

DISCUSSION AND DELIBERATION

Considering the soundness of various views on status of women in the post-revolutionary Irān (after 1979) and in view of the claim that Irān is mainly a patriarchal society, we were prompted to introduce indices of human development, and those of gender development, in particular. This was done in order to determine, based on standard universal indices, whether women's situation, as compared with that of men, has improved in recent years or not. In other words, is it the case that the current situation is indicative of a patriarchal society in which women have no control over the conditions of their lives?

Having looked at the indices we have noticed Irān's elevation in gender indices: It was shown that Irān's rank was improved from 92nd in 1998 to 86th in 2003. To study the trend more thoroughly we turned to social and demographic factors conducive to creating a more favourable context in which women's more active presence in various arenas could explain the growth of gender indices. Factors such as literacy, universality of the upper secondary education, high numbers of girls' admission to the universities, the rising of women's average age in the first marriage, all acted to reduce fertility and hence lower population growth rate.

A reduction in fertility accompanied by an expansion of education both act to create new opportunities for women to become aware of their own abilities, and based on such awareness increase their social activities, acquire higher levels of self-confidence, and perform social and political roles, along with their continued family-

related functions. Today, women's presence in many arenas such those of occupation and education indicate the partial removal of discriminations characteristic of a patriarchal society. Women's wage levels, for instance, in all occupations are same in base salary as those of men's. One may cite an exception in that some fringe benefits such as children's support allowances are paid to men only. As regards this, one may think of women as deprived. Yet based on a research in Canada in 2000 (Safiri, 2003), the findings showed that despite the fact that Canada enjoyed being number one on the scale of human development, yet there existed wage discrimination in the amount of $9000 per annum in favour of men. Despite the fact that human capital theory allows lower education and fewer working week for women, the above research demonstrated that women's education was higher than that of men and that women's working weeks differed only 1.5 weeks, a fact that cannot justify a $9000 annual discrimination against women. Thus recourse to gender relations theory which explains such an issue by employers' male stereotypes and by occupational structures, (Armstrong and Armstrong, 1994) the issue could be explained (Safiri, 2003).

In Irān, nonetheless, female and male employees are protected by the Equal Pay Act[1]. Women's and men's base salaries are legally the same and no woman's base salary is lower than her male counterpart. It is worth noting that another research conducted among 50 workshops and factories indicated that employers tended to employ more men than women (Safiri, 1998). Perhaps this explains why in view of a considerable increase in female university students, women's economic activity growth rate has registered only 6% (see **Table 11**).

Furthermore, measures such as driving women towards the secondary occupations (less important jobs with lower wages and less job security), and marginalizing them have been the characteristic features of a patriarchal society. In Irān, according to statistics used in this research it was shown that about 50% of the employed women served in senior management positions (1.6), specialists, physicians and dentists accounted for 20.6%, technicians 4.47%, and female

[1] Article 38 of Labour Law of the Islamic Republic of Iran, enacted in 1990 (1369 A.P.), declares: "For doing same job which is undertaken in similar conditions in a workshop, equal wage must be paid to women and men. Discrimination in allocating wage on the basis of age, sex, race, ethnicity, and religious and political beliefs is forbidden."

industrial workers' share was 26.9%. It is evident that all these occupations require high specialization.

More active social participation such as in NGO's and in decision-making centres like city-village councils may further improve women's chances of being in equal conditions with men (empowerment indices). Although women's presence in high-ranking positions such as management and membership in the Islamic Parliament has enjoyed little increase but along with completion of their course work, the graduating female university students will fill the gap further by occupying high positions.

In all, in light of various views propounded in the West on status of the post-revolutionary Iranian women, we cannot confirm the views which attempt at portraying a visage of women who have no control over their living conditions and on their destinies. The cases introduced and the statistical analyses conducted show that women's egalitarianism has occurred in many fields. Looking at the Iranian women from the viewpoint provided by the empowerment theory indicates that the acquisition of equal positions has begun by women and has enabled them to gain control over their destiny. Thus the claims put forward at the beginning of this research have no credence, claims suggesting that women are looked upon only for reproductive purposes in Irān. Today, in the Iranian society the women's situation has changed. They have gained control over their familial activities and perform social roles: they participate in socio-political life of their society.

REFERENCES

1. *Armstrong, Pat*, and *Hugh Armstrong*. 1994. ***The Double Ghetto***. Toronto, Canada: McClelland and Stewart.
2. Centre for Women's Participation. 2002 (1381 A.P.). ***Women's Participation and the Seventh Government*** (In Persian). Tehrān, Irān: Centre for Women's Participation, Islamic Republic of Irān.
3. *Gunderson, Morley*. 1985. "Discrimination: Equal pay and equal opportunities in the labour market." Pp. 219–265 in ***Work and Pay: The Canadian Labour Market*** edited by *W. Craig Riddell*. Toronto, Canada: University of Toronto Press.
4. *Kāzemi, Farhād.* 2000. "Gender, Islam, and Politics." ***Social Research 67***(2).
5. *KāzemiPour, Abdol-Mohammad*, and *Khadijé Safiri*. 2001. "The Status of Women in Post-Revolutionary Iran." Presented at the 72nd annual meeting of Pacific Sociological Association, 29 March–1 April 2001, San Francisco, CA, USA.
6. *Majid, Anouar*. 1998. "The Politics of Feminism in Islam." ***Signs: Journal of Women in Culture and Society 23***(2):321–361.
7. *Mayor, Ann Elizabeth*. 1998. "Comments on Majid's 'The Politics of Feminism in Islam." ***Signs: Journal of Women in Culture and Society 23***(2):369–377.
8. *Moghaddam, Valentine M.* 1992. "Patriarchy and the Politics of Gender in Modernizing Societies: Iran, Afghanistan, and Pakistan." ***International Sociology*** *7*(1):35–53.
9. *Mohseni, Manoochehr*. 2000 (1379 A.P.). ***Investigation on Consciousness, Attitudes, and Socio-Cultural Behaviour***. (In Persian). Tehrān, Irān: Ministry of Islamic Guidance, Islamic Republic of Irān.
10. *Moser, Caroline*. 1989. "Gender Planning in the Third World: Meeting Practical and Strategic Gender Needs." ***World Development 17***(11): 1799-1826.
11. *Mosaffā, Nasrin*. 1994 (1373 A.P.). "Political Participation and Women's Empowerment." (In Persian). ***Journal of Foreign Policy 8***(3):374–375.
12. *Reskin, Barbara F.* 1993. "Sex Segregation in the Workplace." ***Annual Review of Sociology 19***: 241–270.
13. *Safiri, Khadijé*. 2003 (1382 A.P.). "Gender and Wage Discrimination in Canada." (In Persian). ***Journal of the Human Sciences 12-13***(44-45):155–175.
14. *Safiri, Khadijé*. 1998 (1377 A.P.). ***Sociology of Women's Employment*** (in Persian). Tehrān, Irān: Tebyān.

15. Statistical Centre of Iran. 2005a (1383 A.P.). ***Census of Characteristics of Household Employment and Unemployment***. (In Persian: Āmārgiri az Vizhegi-hā-ye Eshteghāl va BiKāri-ye Khānévār). Statistical Centre of Iran, Management and Planning Organization, Islamic Republic of Irān. Retrieved 8 November 2005 (http://amar.sci.org.ir/).

16. Statistical Centre of Iran. 2005b (1383 A.P.). ***Irān Statistical Year Book 1383***. Statistical Centre of Iran, Management and Planning Organization, Islamic Republic of Irān. Retrieved 8 November 2005 (http://amar.sci.org.ir/).

17. Statistical Centre of Iran. 2003 (1381 A.P.). ***An Analysis of Characteristics of Marriage in Irān*** (In Persian: Tahlili bar Vizhegi-hā-ye Ezdevāj dar Irān). Statistical Centre of Iran, Management and Planning Organization, Islamic Republic of Irān. Retrieved 8 November 2005 (http://amar.sci.org.ir/).

18. United Nations. 1993. ***Yearbook of the United Nations 1993***. Volume 47. New York, NY: United Nations Department of Public Information.

19. United Nations Development Programme. 2003. ***Human Development Report 2003: Millennium Development Goals: A Compact among Nations to End Human Poverty***. New York, NY: Oxford University Press.

20. United Nations Development Programme. 1998. ***Human Development Report 1998: Consumption for Human Development***. New York, NY: Oxford University Press.

21. United Nations Development Programme. 1995. ***Human Development Report 1995: Gender and Human Development***. New York, NY: Oxford University Press.

22. World Bank. 2000. ***World Development Report 2000/2001: Attacking Poverty***. New York, NY: Oxford University Press.

Author

Khadijé Safiri, Ph.D.,
Department of Family and Women's Studies, Al-Zahrā University
m_safiri@yahoo.com

Associate Professor of Sociology, Al-Zahrā University, Tehrān, Irān.

She received her PhD from Tarbiyat-e Moddares University, Tehrān, Irān, specializing in family and women's studies. She has been the chief editor of *Women's Studies Journal*, since its inception. She is Head, Department of family and women's studies at Al-Zahrā University. Her outstanding book is *Sociology of Women's Employment* (in Persian), 1988. She has written over 15 articles and is a member of the American Sociological Association.

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 51 - 69

Creative Processes in Female and Male College Students

Akram Khamsé, Ph.D.
Women's Research Centre, Al-Zahrā University

Abstract

The present study was conducted on 3770 male and female students in nine universities of Iran. The aim was to reach a comparison concerning the creative processes in female and male students. Research instruments included the Creative Test (CT) and analogy sub-scales of Weschler Adult Intelligence Scale (WALS). The results show that there are some significant elements of creativity as a general capacity. Based on the findings, a theoretical cognitive model has been formulated. Finally, a few suggestions have been offered for the purposes of identifying creative processes as well as for developing and improving such processes.

Keywords

Creativity; Creative Processes; Predictive Factors of Creativity;

INTRODUCTION

Creative persons are considered assets of a company, organization, or nation. A large, rigidity structured bureaucracy may obscure individual creativity. If the educational system is based on such non-flexible structural policies, creativity will be diminished. But a flexible system of educational strategies will provide opportunities for enhancing the ability of creative problem-solving. The creative students will be detected and their talents expanded.

The present study investigates factors which are correlated with the creative processes in the students. It discusses a possible mechanism which is conducive for the growth of such a capability and provides an appropriate condition for it.

THE NATURE OF CREATIVITY

How does creativity work? This has been one of the humankind's fundamental and ancient questions. Plato turned to divine inspirations to explain creativity, two and half millennia ago (Perkins, 2000). Today many psychologists, educators, and philosophers of science have endeavoured to articulate commonly acceptable definitions of creativity. This clearly reveals the complexity of creativity as a scientific construct. For example, *Vygotsky* believed that imaginative ability is basic for all forms of creativity (Ghassemzadeh, 1999).

Guilford (1950) based on a model of factor analysis defined creativity as a divergent thinking in problem solving. *Piaget* (O'Neil, Abedi, and Spielberger, 1994) holds that if you want to be creative, stay in part a child, because the creativity and invention characterize children before adulthood deforms them. Other scholars have emphasized the importance of reframing in creativity.

Gestalt psychologists recognized the hegemony of pattern and the role of pattern breaking in creative thought (Perkins, 2000). *Parness*, *Noller*, and *Biondi* (1977), for example, believes that the essence of creativity is the fundamental notion of the "aha", meaning the fresh and relevant association of thought, facts, ideas into a new configuration which has many meanings beyond the sum of the parts.

Creativity has also been conceived of as the exploration and transformation of conceptual spaces, and has been seen as a novel

combination of old ideas (Boden, 1990), and that how people perceive and interpret the world (Hodder, 1993). *Hodder* (1993) believes that creativity is as much a physical process involving the routines and practices of the body, but since one can not divorce individuals from their social and historical contexts, so the creativity is a social process, and people are caught up within the webs of material symbols they create. Others see analogy and metaphor as lying at the heart of creativity (Mithen, 1998).

In general, cognitive science provides concepts of immense value about creativity. It provides a broader view of creativity, one that encompasses the process of interpretation and which identifies creativity to be as much a process related to the body, to the society, and to material culture, as to the mind alone. So although creative thinking seems to appear suddenly in human evolution, its cognitive basis had a long evolutionary history during which the three foundations evolved, each largely on an independent basis:

1. A theory of mind
2. The capacity for language
3. The complex material culture

Beginning from 50,000 years ago, these came to form the potent ingredients of a cognitive/social material mix that did indeed lead to a creative explosion. Computational psychology that draws many of its theoretical concepts from artificial intelligence (AI) also can help us to understand how human creativity is possible (Mithen, 1998).

THEORETICAL BASIS OF CREATIVITY

There are two ways of viewing creativity: 1) the "genius" view which conceives of creativity as the result of extraordinary thought processes, and 2) "ordinary" view, which sees creativity as resulting from thought processes possessed by all of us, seen most clearly when we solve problems. So according to *Langley* et al. (1987) sudden discovery can generally be explained as a more incremental, progressive kind of problem-solving and sequential reasoning accounts for such scientific discovery. The view of *Koestler* (1964) about creativity is also an ordinary approach. He holds that normal thought operates within a frame of reference, in a familiar and established domain; problems arise and get solved, opportunities

emerge and are taken, but in *Koestler*'s notion of bisociation, creativity involves jumping from the tracks of prevailing frames of reference onto a different paradigm.

In the frame of ordinary view, three basic concepts of *selective encoding, selective combination* and *selective comparison,* make a worth-while contribution to understanding creativity as an ordinary thought processing (Strenberg and Davidson, 1995). *Newell* and *Simon* (1972) believe that the use of analogical thought in problem solving has important implications for our understanding of creativity. According to David Perkins, creativity has a fivefold structure that goes on as something like this: *long search*, *little apparent progress*, *precipitating event*, *cognitive snap*, and *transformation* (Parkins, 2000). Also it has been found that creativity includes *sensitivity to problems*, *fluency*, *flexibility*, *originality*, *elaboration*, and *redefinition* (Torrance and Goff.1989).

But educational systems that put too much emphasis on facts, details, memory and predetermined answers, force a left hemisphere dominance which could result in a lack of development of right brain creativity. In other words instructional strategies that use both sides of the brain can foster creativity (Sanders and Sanders, 1984).

According to *Bogen* and *Bogen* (1969), a major obstacle to high creativity was the left hemisphere inhibition on right hemisphere functions. At the same time Martindale found that creative subjects had significantly more right- than left-hemisphere activity. In other studies, it was found that hemispheric differences to be very pronounced in low creative subjects, while in contrast, the highly creative subjects showed a bilateral response (Carlsson, 1989). These results supported the *Lezak*'s view that the bilateral integration of cerebral function is most clearly exhibited by creative persons (Lezak, 1995).

In general, it seems that creativity is a functional system comprising the interaction of the cognitive functions in hemispheres. Creative person can use his or her imaginative ability in an *autonomous* way (Carlsson, Wendt, and Risberg, 2000).

But it seems that although many educational and training systems have achieved excellent results in terms of domain – specific declarative and procedural knowledge – this excellence has been at a

cost of reducing students' creativity, a kind of thinking that it is very important for the economy of social systems to have greater numbers of creative persons.

Based on the ordinary view of creativity and a multi-component model of it, in line with the aims of the present study using an explorative approach, the basic goals are the examination of the impact which the individual and familial properties have on creative processes. In this line, it has been tried to determine correlated factors of creative thought. Therefore we examined the students' creativity in nine universities considering different disciplines (majoring areas), gender, analogical thinking, handedness, previous academic achievement, off-campus activities or interests, parental level of education, the size of family, order of birth, and origins of citizenship. Finally, the predictability of creative thought has been examined by four subscales of CT.

METHOD

Population and Sample

The total population of this study consists of all newly enrolled students of nine universities of Iran. Three thousand and seventy seven hundred students (N = 3770) were randomly selected from this population. The age range was 16 to 41 years, with a mean score of 18 years. The range of mean score of their baccalaureate degree as an index of previous educational achievement was from 16.35 to18.18.

Instruments

Three instruments were used:

1. Creativity Test (CT) (Auzmendi, Villa, and Abedi, 1996);
2. Similarities subscale of *Weschler* Adult Intelligence Scale (WAIS) (Wechsler, 1981);
3. A demographic questionnaire.

A brief description of these instruments follows Creativity Test (CT): Many psychometric tests have been designed to measure creativity (e.g. *Torrance* tests of Creative Thinking (TTCT), and *Villa-Auzmendi* Creativity Test (VAT)). One of these instruments has been

designed by *Abedi* and his colleagues to develop a multiple choice test for establishing scores of the four traits underlying creative thinking.

1. Creativity Test (CT) is a self-rating instrument comprised of 56 items. CT is divided into four subscales: fluency (18 items), flexibility (11 items), originality (17 items), and elaboration (10 items). Each item has three options ranging from least to most creative response. Maximum scores for the total scale and four subscales (elaboration, flexibility, fluency, originality) are 168, 30, 33, 54, and 51, respectively. This inventory is widely used and has adequate validity and reliability. Estimates of internal consistency for CT which were obtained using *Cronbach*'s alpha; ranged from 0.61 to 0.75. Concurrent validity of CT and other tests (TTCT and VAT) and other measures is between 0.30 to. 0.54.

2. The similarities subscale of WAIS consists of 14 items each item contains a pair of words that subjects were asked to make a connection between two very different words. Or, they must explain similarities between pair of words. This subscale is a Persian form of similarities subscale of WAIS (Wechsler, 1981).

The maximum score for this subscale is 28. Each response has a score ranging from 0 to 2.

The range of reliabilities in this subscale is 0.60 to 0.96. The construct validity of this subscale ranged from 0.40 to 0.81

3. The General Demographic Questionnaire consists of the personal information such as age, sex, handedness, rate of birth, size of family, mean score of baccalaureate degree (as an index of previous academic achievement), off-campus activities or interests, parental level of education, regions of citizenship and major areas in universities. The tests and demographic questionnaire were administered on students in groups. The general demographic questionnaire was administered first followed by creativity test and similarities subscale. This was the way the tests were ordered.

Data Analysis

General demographic characteristics of the students, their scores on self-rating instruments were examined and compared in terms of gender. For comparisons involving continuous variables, T test and F tests, and for other relational aspects, correlation coefficients were

used. An alpha level of $P < 0.05$ and $P > 0.01$ was adopted for all comparisons.

RESULTS

General demographic characteristics of the students are presented in **Table1**.

Table 1. Socio-demographic and Descriptive Statistics for Background Variables

Variable		N	%
Gender	Female	1970	53.63%
	Male	1703	46.37%
	Total	**3673**	**100.00%**
Handedness	Right handed	3309	91.23%
	Left handed	318	8.77%
	Total	**3627**	**100.00%**
Off-campus Activities and/or Interested	Readings	3577	93.84%
	Artistic activities	3468	84.54%
	Sport	3542	88.96%
Residential Areas	Capital city	1085	29.68%
	Other provinces	2571	70.32%
	Total	**3656**	**100.00%**
Size of Family	1 to 3 siblings	1756	49.87%
	4 and more siblings	1765	50.13%
	Total	**3521**	**100.00%**
Rate of Birth	First child	1235	33.72%
	Second child	830	22.67%
	Third child	578	15.78%
	Forth and more child	1019	27.83%
	Total	**3662**	**100.00%**
Major Area in University	Technological and engineering	758	21.95%
	Basic sciences	1162	33.64%
	Human sciences	1484	42.96%
	Medical sciences	15	0.43%
	Art	35	1.01%
	Total	**3454**	**100.00%**

Creativity and Gender

Scores of CT and similarities subscale of WAIS in female and male students are presented in **Table 2**. Results show that there are not any significant differences between female and male students in total score of the creativity, but there are some significant differences between

males and females in subscales of CT. In elaboration scale, female students have higher mean score than male students ($P < 0.01$). This finding is similar to other findings in the literature. It has been shown that gender has a significant correlation with the elaboration subscale ($r = 0.021$; $P < 0.01$) (Auzmendi, Villa, and Abedi, 1996). It seems that females elaborate more than males do.

Results of the present study also showed that in flexibility and fluency subscales of CT, there were no significant differences in terms of gender. In originality subscale, however, there are significant differences between males and females. The mean score of originality in male students was higher than females' score ($P < 0.01$).

Table 2. Scores on CT and Similarities Subscale of WAIS in Female and Male Students

Variable	Female			Male			t	df
	Mean	SD	N	Mean	SD	N		
Total	2.22	0.24	1951	2.22	0.24	1693	0.47	3642
Elaboration	2.40	0.24	1970	2.34	0.25	1703	6.33*	3642
Flexibility	2.13	0.31	1950	2.14	0.30	1676	1.14	3642
Fluency	2.25	0.30	1950	2.12	0.31	1687	1.13	3635
Originality	0.22	0.24	1940	2.29	0.30	1652	4.52*	3590
Similarities	1.37	0.30	1821	1.34	0.30	1410	2.09**	3229

* $P < 0.05$
** $P < 0.01$

Similarities and Gender

In similarities subscale of WAIS, there were significant differences between female and male: the mean score of female students are higher than that of male students ($P < 0.05$, 1.37 vs. 1.34).

Creativity and Handedness

The total scores of creativity and similarities with different type of handedness are presented in **Table 3**.

Table 3. Scores on CT and Similarities and Handedness

Variable	Right-handed			Left-handed			t	df
	Mean	SD	N	Mean	SD	N		
CT	2.22	0.24	3309	2.22	0.24	318	0.53	3625
Similarities	1.35	0.32	2937	1.39	0.34	280	1.64	3215

Significant differences were not found between the total score of creativity and its four subscales and of handedness. Again, significant difference was not found between the mean score of similarities and handedness.

Creativity, Similarities, and Previous Academic Achievement

The correlation Coefficients between total score of CT and four subscales and between CT and similarities and correlation coefficients between CT scores and previous academic achievement, and between similarities and previous achievement are presented in **Table 4**. The significant correlation was found to be between the total score of CT and subscales ($P < 0.001$). Also significant correlations were found between the total score of CT and previous academic achievement ($P < 0.01$) and scores of fluency, originality, and similarities ($P < 0.001$). But there was not significant correlation between previous academic achievement and flexibility. These findings are in line with other findings in literature (Auzmendi, Villa, and Abedi, 1996). The correlation coefficients between total score of the CT and similarities score were not significant. ($r = -0.04$)

Of some relevance to the construct validity of the CT are the inter-correlations of subscale.

Table 4. Correlation Coefficients between CT and Subscales of CT and Similarities Subscales with Previous Academic Achievement
(N = 3344)

Variable	CT and Subscales	Previous Academic Achievement
Total score of CT	1.00	0.10*
Elaboration	0.67**	0.08**
Fluency	0.88**	0.94**
Flexibility	0.80**	-0.008
Originality	0.84**	0.15**
Similarities Subscale	-0.04	0.10**

* $P < 0.01$
** $P < 0.001$

Creativity and Interest of Students

Scores on the CT (total and four subscales) and similarities with various off-campus activities or interests (the arts, sports, and reading different books) are presented in **Table 5**. The mean scores of the

students interested in the arts, sports, and reading were higher than those of the students who were not interested in the fields as specified.

Table 5. Scores on CT and Similarities with Various Off-Campus Activities (Arts, Sports, Reading)

Scale	Variable	Interested			Uninterested			t	df
		Mean	SD	N	Mean	SD	N		
CT	Arts	2.24	0.24	2932	2.12	0.25	536	10.73*	3466
	Sports	0.23	0.24	3151	2.13	0.27	391	6.82*	3540
	Reading	2.23	0.24	3357	2.06	0.25	220	9.90*	3575
Similarities	Arts	1.36	0.31	2618	1.37	0.37	461	0.92	3077
	Sports	1.35	0.32	2799	1.38	0.33	344	1.59	3141
	Reading	1.36	0.32	2988	1.32	0.36	188	1.65	3174

* P < 0.01

Creativity and Parents' Levels of Education

Scores on the CT and the levels of parents' education (no education, elementary education, high school education and graduate education) are presented in **Table 6**. The results of ANOVA between parents' different levels of education and total score of CT (and all four subscales) showed that most of students with the high scores in CT came from the families whose parents have had more educational levels. These results are in line with other findings that show there are inter-correlations between creativity measures and some features related to socioeconomic status including parental levels of education (e.g. Auzmendi, Villa, and Abedi, 1996).

Table 6. Scores on Total CT and Levels of Parents' Education

Parents' Education	Mothers			F	df	Fathers			F	df
	Mean	SD	N			Mean	SD	N		
No Education	2.18	0.23	494	29.80*	3360	2.19	0.25	258	15.41*	3363
Elementary	2.19	0.24	1074			2.19	0.24	925		
High School	2.23	0.23	1191			2.22	0.24	1059		
Graduate	2.29	0.23	604			2.29	0.23	1124		
Total			3363					3366		

* P < 0.01

Creativity and the Residential Areas

Scores on CT and the regions of citizenship are presented in **Table 7**. There were no significant differences between different local areas

(provinces) regarding the creativity test (total and subscales). But there was a significant difference between the capital city and all of provincial areas.

Table 7. Scores on CT and Residential Areas

Residential Areas	Mean	SD	N	t	df
Capital City (Tehrān)	2.41	0.25	1085	3.29*	3654
Other Provinces	2.21	0.24	2571		

* P < 0.01

Creativity and Size of the Family

Scores on the CT and size of family (1-3 siblings, 4 and more siblings) are presented in **Table 8**. The students' total score of CT in small or less populated families were higher than score in large or crowded families.

Table 8. Scores on CT and Size of Family (Number of Siblings)

Variable	Mean	SD	N	t	df
1 to 3 siblings	2.24	0.24	1756	5.90*	3519
4 and more siblings	2.19	0.24	1765		
Total			3521		

* P < 0.01

Creativity and Order of Birth

CT and the order of birth are presented in **Table 9.** There was a meaningful difference between students who were the first children of their families and those who were not the first children of their families (P < 0.01).

Table 9. Scores on CT and Order of Birth

Variable	Mean	SD	N
First child	2.24	0.24	123
Second child	2.19	0.24	830
Third child	2.22	0.24	578
Forth and more child	2.21	0.23	1019
Total			3662

Table 10. One-way ANOVA between Order of Birth and Total CT

Source of Variation	Degrees of Freedom	Sum of Squares	Mean of Squares	F
Between Groups	3	1.38	0.46	7.91*
Within groups	3658	212.93	0.06	
Total	3661	214.31		

* P < 0.01

Creativity and Majoring Areas in the Universities

Scores on the CT and major areas in the universities are presented in **Table 11**. The results of ANOVA between creativity and various areas (technical and engineering, basic sciences, human sciences, medical sciences and the arts) show that there is significant difference between students of technical and engineering and basic sciences as compared with students majoring in human sciences. The mean score of total CT of technical and engineering students were higher than the human science students, respectively (P < 0.01). At the same time there were no significant differences between total scores of CT and other majoring areas.

Table 11. Score on CT and the Majoring Areas in University

Variable	Mean	SD	N
Technical and Engineering	2.23	0.24	758
Basic Sciences	2.25	0.23	1162
Human Sciences	2.18	0.25	1484
Medical Sciences	2.25	0.27	15
Art	2.28	0.23	35
Total			3454

There were significant differences between similarities scores of the students in various areas. On the *Scheffe*'s test, for further analysis, we found that the mean sores of similarities of the basic sciences' students were higher than those of the students of the human sciences and the arts scores; The mean score of the similarities of technical and engineering students was higher than that of the human sciences and the arts students; And the mean score of the analogy score of the human science students also was higher than the arts students. Again, there were no significant differences between other educational areas (**Tables 12** and **13**).

Table 12. One-Way ANOVA between Majoring Areas and Total CT

Source of Variation	Degrees of Freedom	Sum of Squares	Mean of Squares	F
Between Groups	4	3.07	0.77	13.39*
Within groups	3449	197.74	0.06	
Total	3453	200.81		

* P < 0.01

Table 13. One-Way ANOVA between Majoring Areas and Similarities

Source of Variation	Degrees of Freedom	Sum of Squares	Mean of Squares	F
Between Groups	4	5.40	1.35	13.21*
Within groups	3079	314.73	0.10	
Total	3083	320.13		

* P < 0.01

Predictability of Creativity

The results show that there was a correlation between the total score of creativity and the scores of the all four subscales of creativity (the meaningful high and positive correlations were found between all of the subscales scores and the total score of creativity ($P < 0.001$)). The results of multiple regression analysis also showed that all predictive variables (fluency, flexibility, elaboration, and originality) can meaningfully predict the total score of creativity. The most predictive variables were fluency ($P < 0.001$), originality ($P < 0.001$), flexibility ($P < 0.001$), and elaboration ($P < 0.001$), respectively.

The results of repeated measure – ANOVA are presented in **Tables 14** and **15**.

Table 14. Multiple Regression-ANOVA for Predictability of Creativity Regarding Fluency, Originality, Flexibility, and Elaboration

Variables	Multiple R	R^2	SD	F	df
Fluency	0.87	0.77	0.11	11661.94*	13480
Originality	0.97	0.94	0.60	25035.47*	24479
Flexibility	0.99	0.98	0.40	47056.07*	33478
Elaboration	0.99	0.99	3.99	322322.06*	43477

* P < 0.001

Table 15. Multiple Regression-ANOVA for Predictability of Creativity

Variable	β	SD for β	Standard Coefficient
Fluency	0.32	3.02	0.42
Originality	0.30	3.08	0.37
Flexibility	0.19	3.01	0.25
Elaboration	0.17	3.24	0.18

DISCUSSION

The results on gender differences showed that there was no difference in terms of gender. These results not only have diminished the whole system of gender stereotypes, but even addressed the superiority of female students on similarities as an analogical thinking and elaboration. Therefore if universities provide the appropriate climate, the women, as men, will show creative thinking. These results are in line with *Hyde*'s findings about gender abilities (Hyde, 1996).

In the case of handedness there were no differences between right-handers and lefthanders.

Since handedness is an index of laterality, the results have consistency with Herrmann notion that creativity is a mental process utilizing all of the brain specialized capabilities and it is therefore "whole brained" (Herrmann, 1990).

The importance of verbal fluency as the most predictive variable of creativity implies the importance of language. Since the structure of a language involves both sequential as well as visuo-spatial functions, the verbal system organizes both discrete linguistic units and imagistic units in to higher order sequential structures. Words in general are tools for chunking the reality and producing new combination (Ghassemzadeh, 1999) these new combinations are the basis of the creativity. Thus, it can be argued that universities must cultivate fluency and extension of students' vocabulary. The more increased vocabulary, the more extended thought, which in turn produces flexible thinking. Therefore courses on literature can stimulate these abilities.

The originality was the second predictive factor of creativity. In effect, originality is one of the most fundamental underlying factors in many measures of creativity; it is an ability to produce unique ideas.

Since transferring one's knowledge on new problems is essential for originality, the universities should provide more information and instructions in the use of past experience to deal with new problems. Therefore universities can provide students with instruction on how external triggers that they had in the past can facilitate creative solutions to problems in various domains.

Regarding the flexibility as a third predictive variable of creativity, it can be explained that inflexible thought or rigidity has a major effect, that it prevents the free play of thinking and the free movement of the awareness and attention. This leads to false play of thought, which ultimately brings about a pervasive destructiveness while at the same time blocking natural creativity of human beings. So it requires that various forms of rigidity be changed fundamentally. Such a change can not be restricted to a single overall flash insight, but creativity must be sustained.

Both teachers and students are caught up in subtler forms of the same false structure that they are explicitly trying to avoid. It seems that the whole conditioning of all who take part must be changed: the society, the family and the individual. Rigidity produces a functional fixedness and over a limited period of time, certain useful values, assumptions, and principles are regarded as necessary. A form of free exchange of ideas and information in universities and in classrooms is fundamentally relevant for transforming culture and freeing it from destructive misinformation so that creativity can be liberated. Elaboration was another predictive factor of creativity; elaboration is the ability to fill in the details. For improving this ability, the students must be provided with connections between learned concepts and ordinary concepts: to extend and explain the scientific concepts, and to create new connections between them by using metaphors. These can be instructed in classrooms. The role of metaphoric processing and teaching metaphorical thinking as a Meta sign system has been detected (Ghassemzadeh, 1999).

Off-campus activities or interests are other correlates of creativity. General or extra studies, for example, are precipitating factors that are considered as a key in creative thinking; they provide the long search and put one in a position to recognize the creative solutions. General studies identify the boundaries that limit the scope

of search and then act to reform them. They also provide flexible boundaries.

In this search, students break through new areas of space of possibilities, for instance, using objects in ways that go beyond their usual functions. Students focusing on different combinations of knowledge can break their mental sets and produce a deliberate selective encoding. A change in representation brought on other concepts or frames of reference can help to break set and provide deliberate selective combination.

Sports and the arts, as other fields of interests, also result in search for mental possibility of spaces, of movement and images. If, as *Cotterill* (2001) said, we assume that cognition is linked to overt or covert movement, and intelligence becomes the ability to consolidate individual motor elements into more complex pattern and creativity is centres on the motor areas, so sports activate the motor areas and these activations, in turn, are involved in novelty detection. In this manner, it has been shown that artistic attitude is particularly important with regard of its emphasis on the role of imagination. Imagination is the beginning of the entry to creative perception. For students, a proper appreciation of the artistic attitudes or interests should not be left solely to those who specialized in the arts. An artistic attitude is needed in every phase and every aspect of the life.

In sum, these off-campus activities or interests as a heuristic search are strategies that increase the chance of success, and provide a pause that may serve to refresh the individual.

Having examined some of the measures of socio-economic status, such as parental levels of education, size of family, and the region of citizenship on the creativity, it seems that the SES has indirect effects on creativity. Parents' level of education, for example, is related to differences in values, aspirations, and motivations of the youth and is a measure that provides enriched climate in the family and influences critical thinking, inquiry and searching. Similarly, the citizenship in capital city and a less populated family are important. Since creative thought is simulated interaction with environment, these appropriate environments are prerequisite for creativity. In the case of the birth rate a first child of family, brings more attention of parents and he/she

experiences independence and autonomy that are all important elements for creativity.

CONCLUSION

The potential for creativity is natural, but an excessively rigid attachment to fixed "programs" is the prime factor which prevents this creativity from acting.

In this manner the very core of contribution of science and universities to the creative surge would take the form of an extension of scientific attitude in to all human relationships. And, the contribution of art is to speak of an art of living in which the artistic attitude is conductive to a sustained creative perception (Bohm and Peat, 2000). But universities are principally degree-granting institutions, preparing the young for specific professional tasks. So there are some ways in which universities can increase students' performance. The task of providing high level of *motivation* and *commitment* is very important. Creating an environment that encourages students to develop expertise, and maximize their motivation is necessary.

How do we motivate students, so that they develop expertise and mastery over the problems? Regarding young students who have not yet embarked on a *career* we must get them interested in the first place, and make them to keep on being so. Exposure at an early age to subject matters of arts and sciences, structured in such a way as to appeal to the young can help the child to naturally develop an interest in one or several areas. At a later age, exposure to mentors can play multiple roles.

It is thus possible to increase creative output in various ways. Yet, none of these ideas are short-term in implementation or simple in nature to allow for a single conclusion. Creativity, as a multidimensional script, involves many cognitive, emotional, and motivational processes.

REFERENCES

1. *Auzmendi, Elena*, *Aurelio Villa*, and *Jamal Abedi*. 1996. "Reliability and Validity of a Newly Constructed Multiple-Choice Creativity Instrument." ***Creativity Research Journal 9***(1):89–95.
2. *Boden, Margaret A.* 1990. ***The Creative Mind: Myth and Mechanisms***. London, UK: Weidenfeld and Nicolson.
3. *Bogen, Joseph E.*, and *Glenda M. Bogen*. 1969. "The Other Side of the Brain III: The Corpus Callosum and Creativity." ***Bulletin of the Los Angeles Neurological Societies 34***(4):191–220.
4. *Bohm, David*, and *F. David Peat*. 2000. ***Science, Order, and Creativity***. 2nd Edition. London, UK: Routledge.
5. *Carlsson, Ingegerd*. 1989. "Lateralization of Defence Mechanisms: Differing Influences on Perception with Left and Right Visual Field Presentation of Anxiety-Arousing Stimulation." ***European Journal of Personality 3***(3):167–179.
6. *Carlsson, Ingegerd*, *Peter E. Wendt*, and *Jarl Risberg*. 2000. "On the Neurobiology of Creativity: Differences in Frontal Activity between High and Low Creative Subjects." ***Neuropsychologia 38***(6):873–855.
7. *Cotterill, Rodney M. J.* 2001. "Cooperation of the Basal Ganglia, Cerebellum, Sensory Cerebrum, and Hippocampus: Possible Implications for Cognition, Consciousness, Intelligence, and Creativity." ***Progress in Neurobiology 64***(1):1–33.
8. *Ghassemzadeh, Habibollah*. 1999. "Some Reflections on Metaphoric Processing: A Move toward a Meta-Sign Formulation." ***New Ideas in Psychology 17***(1):41–54.
9. *Guilford, Joy Paul*. 1950. Creativity. ***American Psychologist 5***(9):444–454.
10. *Herrmann, Ned*. 1990. ***The Creative Brain***. Lake Lure, NC: Brain Books.
11. *Hodder, Ian*. 1993. "Social Cognition." ***Cambridge Archaeological Journal 3***(2):253–257.
12. *Hyde, Janet Shibley*. 1996. ***Half the Human Experience: The Psychology of Women***. Toronto, Canada: D.C. Heath and Company.
13. *Koestler, Arthur*. 1964. ***The Act of Creation***. New York, NY: Dell.
14. *Langley, Pat*, *Herbert A. Simon*, *Gary L. Bradshaw*, and *Jan M. Zytkow*. 1987. ***Scientific Discovery: Computational Explorations of the Creative Processes***. Cambridge, MA: MIT Press.
15. *Lezak, Muriel Deutsch*. 1995. ***Neuropsychological Assessment***. 3rd Edition. New York, NY: Oxford University Press.
16. *Mithen, Steven* (Ed). 1998. ***Creativity in Human Evolution and Prehistory***. London, UK: Routlege.

17. *Newell, Allen*, and *Herbert A. Simon*. 1972. ***Human Problem Solving***. Englewood Cliffs. NJ: Prentic-Hall.

18. *O'Neil, Harold F. Jr.*, *Jamal Abedi*, and *Charles D. Spielberger*. 1994. "The Measurement and Teaching of Creativity." Pp. 245–262 in ***Motivation: Theory, and Research*** edited by *Michael Drillings* and *Harold F. O'Neil Jr.* New York, NY: Lawrence Erlbaum Associates.

19. *Parness, Sidney L.*, *Ruth B. Noller*, and *Angelo M. Biondi*. 1977. ***Guide to Creative Action***. NewYork, NY: Scribner.

20. *Perkins, David*. 2000. ***The Eureka Effect: The Art and Logic of Breakthrough Thinking***. New York, NY: W. W. Norton and Company.

21. *Sanders, Donald A.*, and *Judith A. Sanders*. 1984. ***Teaching Creativity through Metaphor: An Integrated Brain Approach***. New York, NY: Longman.

22. *Sternberg, Robert J.*, and *Janet E. Davidson* (Eds.). 1995. ***The Nature of Insight***. Cambridge, MA: MIT Press.

23. *Torrance, E. Paul*, and *Kathy Goff*. 1989. "A Quiet Revolution." ***Journal of Creative Behavior 23***(2):136–145.

24. *Wechsler, David*. 1981. ***Manual for the Wechsler Adult Intelligence Scale-Revised***. New York, NY: The Psychological Corporation.

Author

Akram Khamsé, Ph.D.,
Women's Research Centre, Al-Zahrā University
akramkhamseh@yahoo.com

Assistant Professor, Al-Zahrā Univeristy, Tehrān, Irān.
She received her PhD in psychology from Allāmé Tabātabā'ï University, Tehrān, Irān. Her books include: *Pre-marital Education*, *The Brain's Organic Pathology*, and *Women's Psychology* (forthcoming). Her articles revolve around psychology of creativity, psychopathology, and pre-marital counselling.

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 71 - 96

Women's Participation in the Industrial Sector of Irān:
Evaluating the Scopes for Creating Jobs for Women

Zahrā Afshāri, Ph.D.
Department of Economics, Al-Zahrā University
Imān Sheibāni, M.Sc.
Ph.D. Student, Department of Engineering, University of Michigan

Abstract

As in other countries, in Irān men and women are not randomly distributed across the labour market. Such a structure is more easily seen in the industrial sector. There are men's jobs, primarily engaged by men. Similarly there are instances of women's jobs where labour force is predominantly female. Mixed occupations, to be sure, exist. These are a few areas where labour force is comprised of men and women in the same proportions. Women's work is distinguished primarily, though not exclusively, by responsibility for certain tasks associated with daily and intergenerational reproduction. The other significant dimension of women's jobs concerns their terms and conditions. These jobs are less likely to be complemented by expensive capital equipment, thus are less productive, more likely to be temporary and insecure, less likely to be organized, and contain dimmer prospects for promotion. Unstable supply of women characterizes their labour markets. These are common features of secondary labour markets which are less well paid.

The remainder of the paper is organized as follows: first we consider the structure of women's employment in the industrial sector of Irān on the basis of ownership, skills, education, and its distribution in provinces of Irān. In the second part of the paper, we will discuss job creation ability of sub sectors of the industry.

Keywords

Women; Participation; Industrial Sector; Labour Market; Job Creation; Irān;

TRENDS IN LABOUR FORCE PARTICIPATION OF WOMEN IN IRĀN

Education, fertility, and the age distribution of the population are among factors which have attracted increasing number of women to the labour market in Irān. There are two kinds of data on rates of labour force participation of women in Irān: the ILO[1]'s data and those of national series extracted from household and labour force surveys. According to national report prepared by Statistical Centre of Irān, women's participation in labour market of Irān in 1976 was 12.9% (compare to 70.8% for men). But it drastically decreased in 1986 and plunged to 8.2%. Again, it enjoyed an increasing trend; in 1991, 1996 and 2001, the labour force participation of women rose to 8.7%, 9.2% and 12.1% respectively.

According to ILO reports (International Labour Organization, 1996), the labour force participation of women has changed from 19.8% in 1960 to 30.1% in 2000 that apparently shows an increase of 52% (United Nations, 2003). The difference in the rate of labour force participation depends on different definitions. Despite the significant growth of female participation in the labour force and despite the high potential in Irān for women to participate in the labour force, actual rates remain among the lowest in the world.

The finding that female rate of participation are significantly lower in Irān than in other regions is supported by dual data sources mentioned earlier. If we compare Irān With MENA[2] countries, a conclusion can be reached: that countries like Algeria, Irān, Iraq, Syrian Arab Republic and Yemen, whose economies are highly related to natural resource, have lower average labour force participation than do countries like Egypt, Lebanon, Morocco, and Tunisia which are labour abundant nations. Even among the first category of nations, women's labour force participation in Irān is considered the lowest. The low labour force participation of women in Irān is costly not only to women but also to their families and to the society at large. It not only results in high economic dependency but also in lower rates of return for women's education as compared to that of men. Therefore an increasing labour force participation of

[1] International Labor Organization
[2] Middle East and North Africa

women is to their own benefits, which in turn increases the family welfare (Afshāri, 2002).

THE STRUCTURE OF WOMEN PARTICIPATION IN THE INDUSTRY

It is a worldwide phenomenon that women usually perform different tasks and work in industries which are typically different from places where men work. We can define two kinds of segregation: industry (or horizontal) and occupational (vertical). By industry (or horizontal) segregation we mean a situation where more men are found in industry x and more women are found in industry y. While by occupational (vertical) segregation we mean the fact that men hold managerial positions and women hold lower level positions. This paper is concerned with both kinds of job segregation.

Some part of such a sex-based industry (or horizontal) segregation may be the result of skills or preferences, the rest may be explained by constraints imposed on opportunity, cultural paradigm or so on (Afshāri, 2001b).

On the basis of 1996 population census, 34.52% of women were employed in the industry. This sector is seen as the second important sector in terms of women's employment. A glance over the trend of women's share in industrial sector shows that in 1976, 1986, and 1996, the shares were 53.8%, 22.9%, and 22.8% respectively (Statistical Centre of Irān, 1996).

The industrial census results of 1998 reveal that 40.25% of large scale industries (industries encompassing more than 50 people) were public and 59.75% were private. The industry provided employment for 55960 women. Among them 70% worked in industries with more than 50 employees and the rest were occupied in industries with less than 50 employees. In the first category, 54.7% were unskilled, 33.5% were skilled, 3.2% were technician, and 6% were engineers. Among them 63.5% were employed in production and the others were occupied in non–production sector. Moreover 51.2% and 48.8% were employed in public and private industries respectively. As we will consider later, the women are occupied in a few industries, mostly those industries with characteristic feature of a dual market system,

i.e., bearing instability, low productivity, and low wages. These features make women employment very vulnerable to economic fluctuations. As a result of dual labour market the unemployment rate of women has always been above that of men. In 1996 the rate of women unemployment in Irān was 12.5% (compare to 8.4% for men). In rural areas these rates were 14.4% and 8.4% accordingly. As we will see later, the structure of women's participation in industry is neither identifiable by industries nor by regions.

THE PROVINCIAL DISTRIBUTION OF WOMEN IN INDUSTRY

As **Table 1** shows, the role of women in the economy in general and their role in industry in particular, is not the same in all provinces.

Table 1. Provincial Percentage Distribution of Women in Industry
(Extracted from Statistical Centre of Irān, 1999)

Province	Public	Private	Cooperative	% of Women
Tehrān	43.5	56.4	0.50	33.8
Khorāsān	16.2	83.7	1.82	12.45
Gilān	38.2	61.8	1.70	9.73
Esfahān	38.4	61.6	0.64	5.83
East Āzerbāijān	42.9	57.1	0.31	5.13
Ghom	8.7	91.3	0.10	4.77
Ghazvin	38.2	61.8	0.00	3.82
Markazi	53.3	46.7	0.77	3.60
Māzandarān	46.6	53.4	1.50	3.35
Fārs	41.1	58.9	0.94	2.80
Khoozestān	77.7	22.3	0.33	2.70
West Āzerbāijān	34.5	65.5	5.00	2.36
Kermān	35.8	64.2	6.30	2.32
Semnān	19.5	80.5	3.80	1.84
Golestān	37.0	63.0	1.50	1.63
Zanjān	34.4	65.6	0.81	1.56
Yazd	18.2	81.8	0.35	1.33
Hamedān	20.1	79.9	2.00	0.85
Booshehr	29.6	76.4	3.60	0.72
Lorestān	38.8	61.2	2.00	0.66
Sistān and Baloochestān	55.3	44.7	1.90	0.65
Kermānshāh	33.5	66.5	3.10	0.50
Kordestān	39.5	60.5	5.90	0.48
ChāhārMahāl and Bakhtiyāri	12.4	87.6	5.60	0.47
Hormozgan	59.2	40.8	2.00	0.44
Ilām	55.7	44.2	9.20	0.27
Ardabil	30.4	69.6	0.90	0.24
Kohkilooyé and BoyerAhmad	46.2	53.7	5.20	0.11

This is due to different levels of development and education. It can also be attributed to cultural differences and differing share that industry holds in a region. Over one third of women in industry are employed in Tehrān (33.93%). The following are shares held by some of the provinces: Khorāsān (12.45%), Gilān (9.73%), Esfahān (5.83%), and East Āzerbāijān (5.13%). These are the most important provinces for women's occupation in this respect. The least important provinces are Kohkilooyé and Boyer-Ahmad (0.11%), Ardabil (0.24%), and Hormozgān (0.44%). In Irān while sex segregation by industry widely varies within the provinces, the overall level of segregation is not higher than the average for the country.

THE PROVINCIAL DISTRIBUTION OF WOMEN IN THE PRIVATE, COOPERATIVE, AND PUBLIC INDUSTRIES

As **Table 1** shows, in ChāhārMahal-e Bakhtiyāri 83.7%, Khorāsān 83.7%, Yazd 81.8%, Semnān 80.5%, and Hamedān 79.9% of women are occupied in private industries. But in Khoozestān 77.7%, Hormozgān 59.2%, Ilām 55.2%, and Sistān and Baloochestān 55.3% of women work in public sector. After the imposed war, and the beginning of privatization process in Irān, the structure of woman's employment in industry began to change in favour of private industries. In public sector compare to private sector. The women are less vulnerable to social and economic volatility. As we will discuss later, a drastic change in the structure of labour market, on the one hand, and another change in **Patriarchal structure of the family**, on the other, are required to make women less vulnerable.

THE PROVINCIAL DISTRIBUTION OF WOMEN IN INDUSTRY ON THE BASIS OF SKILLS

Educational achievements of the Iranian women within last two decades have been impressive. The average year of schooling of women rose from one year in 1960 to 4.5 years in 1999 (Barro and Lee, 2000). Moreover during the last two decades Irān has achieved impressive increases in the literacy of women. It rose from 22.9% in 1970 to 71.4% in 2002 (World Bank, 2003). Providing women with the skills they need for the job market is an Iranian as well as a worldwide

challenge. The provision of lifelong learning and vocational skills is also critical for women. In particular, since women leave market due to many reasons, in order to re-enter the labour market they need to upgrade their skills. Despite the impressive nation-wide achievement, the differences are noticeable among the provinces. The lowest literacy rate is 56.8% for Sistān and Baloochestān and the highest is 88.3% for Tehrān (Statistical Centre of Irān, 2001). The rate of female literacy rose from 6.2% in 1990 to 9.5% in 2000 (World Bank, 2003). This difference in skills and education caused different pattern of job segregation in the Iranian provinces.

Table 2 summarizes the provincial distribution of Women in Industry on the basis of skill.

Table 2. Provincial Distribution of Women in Industry on the Basis of Skill
(Extracted from Statistical Centre of Irān, 1999)

Province	Engineers (%)	Technicians (%)	Skilled (%)	Unskilled (%)	Total 1000 Women
Tehrān	8.5	4.9	28.4	58.3	19063
Khorāsān	3.9	1.3	34.3	60.5	7016
Gilān	2.6	0.7	42.6	54.2	5483
Esfahān	12.6	2.5	34.2	56.3	3283
East Āzerbāijān	5.1	3.5	19.7	71.7	2892
Ghom	3.6	1.2	39.4	55.8	269
Ghazvin	6.7	4.4	37.3	51.6	2151
Markazi	7.4	3.1	25.5	64.0	2030
Māzandarān	5.1	1.6	39.2	54.1	1888
Fārs	5.6	4.3	26.8	37.1	1581
Khoozestān	5.7	1.8	9.7	82.8	1525
West Āzerbāijān	1.4	0.2	9.5	89.0	1329
Kermān	6.8	1.7	25.2	66.3	1306
Semnān	3.5	1.7	18.5	76.2	1035
Golestān	3.1	0.4	8.1	88.5	916
Zanjān	3.6	0.9	41.3	52.4	876
Yazd	4.6	15.4	69.5	24.3	748
Hamedān	3.6	0.0	11.9	84.5	481
Booshehr	3.2	0.6	2.9	93.3	407
Lorestān	7.5	2.6	30.3	59.7	327
Sistān and Baloochestān	4.7	2.4	35.1	56.8	364
Kermānshāh	18.2	7.3	26.3	48.2	284
Kordestān	5.9	0.8	83.6	9.7	179
ChāhārMahāl and Bakhtiyāri	2.2	0.4	65.6	31.7	267
Hormozgan	6.7	0.6	48.6	44.1	245
Ilām	0.0	0.0	85.1	14.9	154
Ardabil	9.8	1.0	12.6	72.5	135
Kohkilooyé and BoyerAhmad	46.2	0.0	2.4	91.9	63

As shown in **Table 2**, although in all provinces the majority of women in industry are unskilled yet the differences among the provinces are noticeable. Booshehr and West Āzerbāijān have the highest share of unskilled women in their labour force. In general, the share of specialized women, i.e., technicians and engineers, in labour structure is not noticeable. Kermanshah and Esfahān respectively have the highest share of engineers in their total women's employment. The differences in provinces are partially due to the production function of industries (characteristic of the industry) allocated in the province and the rest can be explained by the degree of gender, social, and economic development.

RANKING INDUSTRIES ON THE BASIS OF WOMEN PARTICIPATION IN THE INDUSTRIAL SECTOR
(OCCUPATIONAL OR HORIZONTAL SEGREGATION)

By industry (or horizontal) segregation we mean more men are found in industry x and more women are found in industry. As mentioned earlier, about one third of women are employed in industrial sector. This sector currently is the most important one for occupation of unskilled women and in the future, as the industrial process continues, it would remain a potentially important sector in creating job for women. It means that the growth of this sector will have significant impact on women's employment. Nevertheless, because of the skewed distribution of women's employment in this sector, growth in different sectors will not have identical impact on women's employment. The latter will be discussed in the second part of paper.

With respect to **Table 3**, although women are employed in almost all of industries, nevertheless, only in two sectors, i.e., agriculture and textiles, more than half of the workers are women. Furthermore, in clothing and medical sectors more than 20% of workers are women. In radio-television and communication, plastic products, electricity, and papers and printing industries, women include 10-20% of the employees. In addition, in tobacco and cigarettes sectors 5-10% of the workers are women. This showed a much skewed gender distribution of the industry and severe horizontal job segregation in industry. As the data reveal, women are concentrated in a few labour-intensive jobs which complement housework. Most of these jobs are located in the

vicinity of their homes or are located very close to places where they live. We can recognize the gender duality of labour market, and its genuine shape, in industrial sector.

Table 3. Ranking Jobs on the Basis of Percentage of Women's Inclusion
(Extracted from Statistical Centre of Irān, 1999)

Total Sector Employment	Percentage of Women
Carpet	57.2
Medicine	23.4
Radio and Television	13.3
Plastic Products	13
Electricity	12.2
Paper Products	12.0
Printing	10.9
None Ferrous Minerals	6.1
Elastic Products	6.1
Tobacco	5.4
Textile	5.1
Industrial Machineries	4.3
Leather Shoes	4.2
Dairy	4.0
Vehicles	3.9
Pet Food	3.5
Cooper Products	3.2
Agricultural Machineries	3.04
Glasses	2.5
Shortening	2.63
Paper Paste	2.3
Aluminium Products	2.0
Petroleum Products	2.0
Manufacture	2.0
Wood Products	1.4
Metallurgies	1.3
Fertilizers	1.1
Cement	1.1
Construction Products	1.1
Sugar	0.76
Other Food Products	11.76
Other Chemical	10.0
Other Industrial	3.5

THE WOMEN DISTRIBUTION IN INDUSTRY ON THE BASIS OF SKILLS (OCCUPATIONAL OR VERTICAL SEGREGATION)

By occupational (vertical) segregation we mean men hold managerial positions and women hold lower level positions. In general, the majority of women employees in industry are unskilled labour;

nevertheless, there exist some differences among industries. **Table 4** summarized the results on the basis of industry.

Table 4. Distribution of Women in the Industry on the Basis of Skills
(Extracted from Table 2 and Statistical centre of Irān, 1987)

Group		Engineers	Technician	Skilled	Unskilled
Wood and its Products, Paper and Printing	Paper	41.2	0.0	17.6	41.2
	Printing	8.2	2.4	74.5	14.9
	Paper Products	6.1	2.0	25.2	66.6
	Manufactured Products	0.0	0.0	26.3	73.7
Cement and Glasses	Glasses and its Products	12.5	3.6	47.3	36.6
	Cement	60.0	13.3	6.7	30.0
	Others	1.6	0.64	18.1	79.7
Food, Products, Beverages, and Cigarettes	Dairy	35.5	10.8	18.2	40.0
	Sugar	26.1	30.4	30.4	13.0
	Shortening	28.6	5.8	25.7	40.0
	Pet Products	87.5	0.0	0.0	12.5
	Tobacco	4.6	2.0	22.6	76.2
	Other Food Products	6.9	2.1	16.4	74.6
Textile, Clothing, and Leather	Textile and Clothing	0.02	0.5	48.7	49.0
	Carpet	0.0	0.0	35.5	64.5
	Clothing	0.11	0.17	42.9	56.9
	Shoes, Skin, and Leather	2.9	1.7	60.1	35.3
Plastic Materials	Fertilizer and ...	33.3	40.0	10.0	27.0
	Plastic Materials	58.7	18.1	19.0	5.4
	Medicine and its Products	10.8	4.5	26.4	48.4
	Petroleum Products	30.4	8.9	28.6	32.1
	Elastic Products	6.5	1.5	25.9	66.2
	Other Chemicals	13.9	5.5	28.9	57.7
Ferrous and Non-Ferrous Metals	Iron and its Products	38.2	14.7	14.7	32.4
	Copper and its Products	18.1	8.3	13.9	6.9
	Aluminium and Non-Ferrous Metals	55.6	0.0	11.0	33.0
	Metal Construction	41.7	0.0	33.0	25.0
	Industrial Equipments	19.2	7.8	21.2	51.8
	Agricultural Equipments	53.3	6.7	0.0	40.0
	Radio and Television	3.7	4.3	40.1	51.2
	Motor Vehicles	4.8	6.0	45.1	32.9
	Others	16.8	10.1	34.2	39.9
	Electricity	3.6	3.4	31.6	61.4

1. Paper, other Printing Materials, and Wood Products

In production sub-sectors, i.e., wood products and paper products respectively, about 75% and 41.2% of the women workers are unskilled. In printing and wood products 74.5% of the women workers are semi skilled. The only exception is paper product industry. In this industry about 41.2% of the employees are engineers. The share of engineers in printing and paper product industries is noticeable.

2. Glasses, Cements, and Similar Industries

As **Table 4** shows, the distribution of women in this group is skewed. In cement sector around 60% of the women are engineers, while in glass industry the majority of workers are unskilled.

3. Food, Beverages, and Tobacco

In all industries of these groups, except sugar, most of the employees are unskilled. Furthermore, in the branch and pet foods (87.5%), and in the dairy and sugar sector (more than one fourth) of the workers are engineers.

4. Textile, Clothing, and Leathers

The majority of employees in this group are unskilled. Engineers and technicians include a small part of women workers.

5. Fertilizer

Most of the employees in this group are engineers and technicians. Nevertheless in other industries, the majority are skilled and unskilled labours.

6. Metal Industries

The majority of women employees in ferrous and non-ferrous and agricultural equipment industries are technicians and engineers. While in other sub-sectors of this group the majority are skilled and unskilled workers.

THE DISTRIBUTION OF WOMEN PARTICIPATION ON THE BASIS OF INDUSTRY OWNERSHIP

In 1990 the process of privatization in Irān was started. Therefore the share of state in industry has an increasing pattern. This change will affect the distribution of labour force in general and the distribution of women labour force in public and private sector. Nevertheless according to 1996 national census 40.25% of women employees in industrial sector are occupied in private sector and the rest are working in public sector. Only 1.04% is being employed in cooperative sector. It means that state employment dominates women employment in industry. Therefore with the progress of privatization; women's labour market will be seriously affected.

Table 5. Distribution of Women on the Basis of Industry Ownership
(Extracted from Table 1 and Statistical centre of Irān, 1987)

Group		Cooperative	Private	Public
Wood and its Products, Paper and Printing	Paper	0.0	15.0	85.0
	Printing	0.1	47.2	53.8
	Paper Products	0.7	74.2	25.8
	Manufactured Products	2.2	45.5	52.3
	Group	2.3	47.8	52.2
	Paper	0.3	75.4	25.5
	Cement	0.6	30.6	69.4
	Others	1.4	73.2	26.8
Food Products, Beverages And Cigarettes	Dairy	1.6	42.8	57.2
	Sugar	1.6	58.4	41.6
	Shortening	0.0	62.6	37.4
	Pet Products	4.9	53.0	43.0
	Tobacco	0.0	0.0	100.0
	Other Food Products	2.6	65.3	34.7
Textile, Clothing, Leather	Textile	1.9	65.6	44.4
	Carpet	1.8	82.2	17.8
	Clothing	4.4	77.2	22.8
	Shoes, Skin, and Leather	0.3	47.2	52.8
Plastic Materials	Fertilizer and …	0.0	2.5	97.5
	Plastic Materials	0.1	85.2	14.8
	Medicine and its Products	0.5	59.0	41.0
	Petroleum Products	0.0	7.9	92.1
	Elastic Products	0.6	75.0	25.0
	Other Chemicals	0.5	64.5	45.5
Non-Ferrous Metals	Iron and its Products	0.5	19.8	34.1
	Copper and its Products	0.0	38.9	80.2
	Aluminium and Non-Ferrous Metals	0.7	47.3	61.6
	Metal Construction	5.6	73.3	52.7
	Industrial Equipments	0.6	66.7	26.5
	Agricultural Equipments	0.2	38.8	33.3
	Radio and Television	1.4	62.8	61.2
	Motor Vehicles	0.2	43.7	37.2
	Electricity	0.7	65.9	56.3

According to **Table 5**, the role of women in public, private, and cooperative sectors of the economy can be summarized as follows:

1. Food, Beverages, and Tobacco Industries

In this group 65.3% of women are engaging in private sector and the rest are in public sector. The occupation of women in cooperative sector is negligible (2.6%). The only exceptions are tobacco industry that are managed fully by state and diary and fish industries that are absolutely managed privately.

2. Wood Products, Paper, and Printing Industries

About ¾ of workers in paper products are employed in private sector. The role of cooperative sector is not considerable. In remaining industries of this group the role of public sector is noticeable**.**

3. Chemicals, Plastic, and similar Industries

With exceptions of fertilizer and petroleum, the majority of workers are employed in private sector. Only a small percentage of employees work in cooperative sector.

4. Textiles

Excluding shoes, leather, and animal skin industries, most of the employees in this group are working in private sector. Similar to other groups, the share of cooperative sector is negligible. The only exception is clothing industry.

5. Glasses, Cement, and similar Industries

In this group with exception of cement, all employees are engaged in private sector.

SUMMARY

In Irān while sex segregation by industry widely varies within the provinces, the overall level of segregation is not higher than the average for the country. In other words, regional segregation in Irān over the past two decades has decreased. The industry segregation has decreased from 0.47 in 1992 to 0.39 in 2000. But the occupational segregation has increased from 0.18 in 1992 to 0.22 in 2000 (World Bank household and labour force survey). It is noticeable that in 2000, occupational segregation (In West Africa 0.23, East Asia and the Pacific 0.32, Central and Eastern Europe 0.26, the remaining parts of Europe 0.40, and America 0.45) was higher than that of Irān. But occupational segregation in South Asia was 0.2, which was lower than Irān. In all MENA countries occupational segregation (0.34) was greater than Irān. The only exception was Tunisia (0.19) and Morocco (0.13) (Data for MENA from case studies; Data from rest of the world from Sayed and Tzannatos, 1998).

Occupational segregation leads to over supply of workers in women dominated industries and undersupply in men dominated industries. Therefore it causes lower wages for the woman-based industries and higher wages in men-based industries. It will accelerate gender wage gap. This situation will result in economic inefficiency and have adverse effect on economic growth. Moreover, it affects women socioeconomic status including power, skill and earning. Finally it limits women opportunity for job mobility and career progress and reduces the women's possibilities for autonomy at work.

If occupation is selected with regard to family consideration, the high presence of female in an industry makes that industry to be related to family responsibilities. Therefore, women concentration in those industries reinforces a gender division of labour. In that case the labour force decisions are influenced by family responsibilities. Furthermore it tends to decrease labour force participation of women. Similar to the world wide reports, in Irān women are employed in a narrower range of occupations than are men (International Labour Organization, 2003).

In the second part of the paper the job creation ability of each industry will be examined. In other words, we want to know that which industry creates more job opportunity for women within the existing labour market structure. This helps us to evaluate the role of different growth strategies on one hand, and the impact of privatization process on women employment in Irān, on the other. That can help policy makers to adjust women labour market. For this purpose, we will have a brief review of input-output technique. The adjusted employment coefficient of industries will be calculated on the basis of public-private and cooperative sectors, and skilled-unskilled labour. To do so an input-output technique has been applied.

METHODOLOGY

As mentioned earlier, the distribution of women in industrial sector is skewed. It means that women are concentrated in a limited number of industries. Therefore, the ability to create jobs in general, and for women in particular, is highly affected by industrial growth strategies. This paper aims to examine the impact of sectoral growth on creating job for women (Sheibāni and Afshāri, 2001). For this purpose an input –

output framework is applied. This paper concludes that growth in industry and agriculture has the highest job creation potentials for low educated (for illiterate and primary school level) women. For women with junior high school degree, health sector has the highest job creation ability. While for educated women (high school diplomas and above that) education and health are the most important sectors. With the present segmented labour market the progress in privatization process creates more jobs for women with education less than high school level, but does not bear significant impact for high school diplomas and more highly educated women.

The purpose of model developed here is to assess the employment performance of different industries. A model was used for linking input-output analysis to women employment in industry (Afshāri, 2001a). A Leontief production function is applied. The main characteristics of this production are as follows (Afshāri, 2001a):

1. Constant returns to scale
2. Only one technology per industry
3. Different technology for different industries

Due to difference in nature of production functions, employment coefficient (job creation per unit of output) of the sectors is not the same. Sectors with high labour coefficient are called labour intensive sectors. In this paper a 78*78 input-output table prepared by Statistical Centre of Irān were applied (Statistical Centre of Irān, 1987) to calculate direct labour coefficients. Then coefficients are adjusted for gender, skilled labour, and type of ownership.

The following production function is applied to each sector.

$$y_j = \min (K_j / u_j) \quad (1)$$

It follows that the value of primary input (labour) required for producing one unit of j^{th} good is given by:

$$U_j = K_j / y_j \quad (2)$$

$$V_j = L_j / y_j \quad (3)$$

y_j = total output of the j^{th} industry
K_i = capital
L_j = labour
U_j = capital used per unit of output
V_j = labour used per unit of output

j = industries (1, 2, 3 … 35)

In order to adjust labour coefficient for women the following equation were applied.

$$V_{Fj} = V_j \times F_j \quad (4)$$

V_{Fj} = women labour coefficient in sector j
F_j = the share of women in sector j

To find the adjusted women labour coefficient on the basis of skill the following formula were applied.

$$V_{F\,ji} = V_{Fj} \times S_i \quad (5)$$

$V_{F\,ji}$ = adjusted women labour coefficient on the basis of skill
S_i = the share of women in i^{th} skill
i = skills (1, 2, 3 … 9) as following:

1: High ranking officials and managers
2: Specialized women
3: Technicians
4: Secretaries and etc.
5: Clerks and service workers
6: Skilled workers in agriculture
7: High skilled workers in industry
8: Workers in charge of office affairs
9: Unskilled labour

The adjusted women labour coefficients on the basis of ownership (private, public, and cooperative sectors) are calculated as the following.

$$V_{F\,jPr} = V_{Fj} \times Pr_j$$
$$V_{F\,jPu} = V_{Fj} \times Pu_j$$
$$V_{F\,jCo} = V_{Fj} \times Co_j \quad (6)$$

$V_{F\,jPr}$ = women labour coefficients in private sector
$V_{F\,jPu}$ = women labour coefficients in public sector
$V_{F\,jCo}$ = women labour coefficients in cooperative sector
Pr = the share of women in private sector
Pu = the share of women in public sector
Co = the share of women in cooperative sector

A Comparative Study of the Direct Job Creation Potentials of Industries (Which Sector Creates More Jobs)

The increasing pattern of women participation in labour market in the last two decades has caused high women unemployment in Irān. Whereas the general unemployment rate in Irān was 14.2%, but for women's unemployment the figure was 19.45%. The unemployment rate for educated women was 22.92%, a figure which was higher than the average unemployment rate (Statistical Centre of Irān, 2001:81). So creating job is the most important government concern. Therefore, it is essential to recognize the industries that could create more jobs.

Table 6. Labour Coefficient in Industrial Sector (Women-Total)
(Extracted from Table 3 and Statistical centre of Irān, 1987)

Sectors	Women Labour Coefficient	Rank	Total Labour Coefficient	Rank
Carpet	0.028	5	0.05	69
Clothing	0.066	3	0.229	22
Medicine	0.03721	4	0.159	45
Radio and Television	0.023	17	0.178	40
Plastic Products	0.00247	23	0.19	33
Electricity	0.0362	4	0.297	15
Paper Products	0.004	10	0.094	60
Printing	0.023	6	0.211	29
None Ferrous Minerals	0.005	14	0.243	18
Elastic Products	0.0108	27	0.178	40
Tobacco	0.01166		0.216	26
Textile	0.00964	12	0.189	34
Industrial Machineries	0.00925	13	0.215	37
Leather Shoes	0.0042	14	0.1	59
Dairy	0.00972	11	0.023	74
Vehicles	0.00399	16	0.114	64
Pet Food	0.001575	29	0.045	71
Cooper Products	0.00438	16	0.137	50
Agricultural Machineries	0.0054416	13	0.179	38
Glasses	0.0045	15	0.18	35
Shortening	0.0035611	18	0.124	53
Paper Paste	0.01166	8	0.216	25
Aluminium Products	0.0017	28	0.085	64
Petroleum Products	0.0021	26	0.104	56
Steel	0.0225	25	0.173	41
Wood Products	0.0027	21	0.138	48
Wood Industry	0.00382	14	0.273	17
Fertilizers	0.00233	24	0.212	28
Cement	0.003	19	0.273	17
Construction Products	0.00249	22	0.226	23
Sugar	0.0866	2	0.114	55
Other Food Products	0.00399	20	0.025	73
Other Ferrous and Non Ferrous Products	0.01324	7	0.217	24

In order to evaluate the role of sectoral growth (growth strategies) on job creation for women, the direct labour coefficient was adjusted. The result of applying **Equation (1)** to the 78×78 Iranian input-output table shows that the most labour intensive sub-sector of industry ranked 15 among 78 sectors of economy. **Table 6**, column (1) ranks industrial sector on the basis of labour intensity. The coefficient shows the amount of increase in labour expenses caused by one unit increase in sector's value added. If wage average in all sectors is assumed identical, then higher coefficient means more labour intensity.

Comparing Columns (1) and (2) of **Table 6**, shows that women labour coefficients are quite different from average labour coefficients. It means that women's unemployment is highly affected by the growth strategies. Furthermore, the impact of various economic growth strategies on creating job for men and women is not the same. Textiles, sugar and cube sugar, medical instrument and electricity have the highest coefficient respectively. On the other hand, pet foods, aluminium, nonferrous metals, plastic products, petroleum products, and fertilizers have the lowest coefficients respectively. Because of the existence of different skills and consequently different wages in different sector, we had to adjust the coefficient by skill.

The Adjusted Women Labour Coefficient on the Basis of Skill

The **Equation (5)** was applied to adjust women labour coefficient on the basis of skill. The findings are summarized in **Table 7**. The first row of the table shows that, for engineers, the highest coefficients belong to sugar and cube sugar, chemical products, non ferrous metals, and medicine respectively. The second row of the table reveals that sugar and cube sugar, chemicals and electricity respectively have the highest coefficient for technicians. As the skilled workers are concerned, the textiles, sugar, and cube sugar, printing activities and medicine products have the highest coefficients. Finally for unskilled women; textiles, diary, and clothing have the highest ability to create jobs.

Table 7. Labour coefficient in Industrial Sector on the Basis of Skills
(Extracted from Table 4 and Statistical centre of Irān, 1987)

Sectors	Engineers	Technicians	Skilled	Unskilled
Carpet	0	0	0.01775	0.0325
Clothing	0.00007	0.000112	0.02831	0.755
Medicine	0.00402	0.00168	0.01354	0.1801
Radio and Television	0.00659	0.00765	0.07139	0.00911
Plastic Products	0.00143	0.00045	0.00047	0.000133
Electricity	0.00130	0.00123	0.0145	0.0225
Paper Products	0.00069	0.00023	0.00264	0.00751
Printing	0.00189	0.00055	0.01714	0.00343
None Ferrous Minerals	0.00616	0.00037	0.0141	0.011055
Elastic Products	0.00071	0.00016	0.00284	0.00719
Tobacco	0.000536	0.00023	0.00416	0.008891
Textile	0.000002	0.00005	0.00177	0.00472
Industrial Machineries	0.00067	0.0004	0.0061	0.00159
Leather Shoes				
Dairy	0.00297	0.00105	0.00301	0.003888
Pet Food	0.00138	0	0	0.0002
Cooper Products	0.0031	0.00036	0.00088	0.0003
Agricultural Machineries	0.0029	0.00037	0.0047	0.0021
Glasses	0.0225	0.0064	0.001	0.06588
Shortening	0.000932	0.00019	0.0851	0.0013
Paper Paste	0.00206	0	0	0.00206
Aluminium Products	0.00095	0	0.00019	0.00056
Petroleum Products	0.00023	0.00019	0.0006	0.00067
Steel	0.00086	0.00033	0.0003	0.00073
Wood Products	0	0	0.00135	0.0028
Wood Industry	0	0	0.00074	0.00206
Fertilizers	0.00078	0.00093	0	0.00063
Cement	0.00208	0.0004	0.0002	0.0006
Sugar	0.02261	0.02634	0.0634	0.01126
Other Food Products	0.00021	0.00006	0.0005	0.00224
Other Ferrous and Non-Ferrous Products	0.00104	0	0.00082	0.00062
Chemicals	0.01446	0.00572	0.00289	0.006

The Adjusted Women Labour Coefficient on the Basis of Industry Ownership

The Iranian women have tended to participate heavily in public sector employment. One apparent reason is that the public sector profession has been considered more appropriate or acceptable for women. Moreover, the work condition, including maternity leave benefits and working hours are more favourable than those of the private sector. Although the women have benefited from public sector jobs in the past, because of the privatization process that started since the last

decade, those benefits will not be as significant for the next generation of female workers. Furthermore, as the demographic pyramid moves toward school age, there will be a declining demand for teachers which is considered to be the most important job for educated women. Therefore, the role of industrial growth strategy is very important for creating jobs for women.

Table 8. Labour Coefficient on the basis of Industry Ownership
(Extracted from Table 1 and Statistical centre of Irān, 1987)

Sectors	Cooperative		Private		Public	
	Women	Total	Women	Total	Women	Total
Carpet	0.00005	0.00055	0.000804	0.0402	0.0116	0.216
Clothing	0.0015	0.0177	0.00192	0.0108	0.01503	0.522
Medicine	0.00008	0.0009	0.022	0.0938	0.0163	0.0652
Radio and Television	0.00019	0.00304	0.01455	0.1094	0.00879	0.0661
Plastic Products	0.00006	0.00019	0.021	0.1619	0.00365	0.0281
Electricity	0.00008	0.0022	0.0243	0.1995	0.0123	0.1013
Paper Products	0.00008	0.00066	0.00858	0.0698	0.0042	0.1836
Printing	0.00053	0.0049	0.011	0.101	0.012	0.1101
None Ferrous Minerals	0	0	0.1076	0.174	0.00397	0.0651
Elastic Products	0.00001	0.00119	0.0081	0.1335	0.00272	0.0445
Tobacco	0	0	0	0	0.0116	0.216
Textile	0.00018	0.0036	0.00632	0.1242	0.00428	0.0839
Industrial Machineries	0.00002	0.00182	0.00616	0.143	0.00308	0.0716
Leather Shoes	0.00001	0.00003	0.0017	0.0534	0.00222	0.0528
Pet Food	0.00032	0.00242	0.00075	0.0324	0.00068	0.0194
Cooper Products	0.00002	0.00037	0.00567	0.0567	0.0027	0.0844
Agricultural Machineries	0.00002	0.00036	0.00211	0.0695	0.0033	0.1096
Glasses	0.00001	0.00065	0.0081	0.1335	0.0028	0.0459
Dairy, Shortenings	0.00006	0.000107	0.00204	0.0776	0.00122	0.0464
Aluminium Products	0.00032	0.0006	0.00198	0.0472	0.0009	0.0448
Petroleum Products	0	0	0.004	0.0083	0.0193	0.967
Steel	0.00019	0.00087	0.00039	0.06658	0.0018	0.1388
Wood Products	0.00444	0.00317	0.00174	0.1242	0.002	0.1425
Fertilizers	0	0	0.000166	0.0053	0.00227	0.2067
Cement	0.00005	0.0063	0.00092	0.083	0.00209	0.1895
Construction Products	0.0014	0.0127	0.00183	0.1661	0.00066	0.599
Sugar	0.00026	0.0021	0.0023	0.066	0.00036	0.0474
Other Food Products	0.000037	0.00065	0.00067	0.0215	0.00192	0.0037
Other Ferrous and Non-Ferrous Products	0.00001	0.00323	0.00967	0.1588	0.00354	0.0581
Other Industrial Product	0.00006	0.00129	0.00617	0.0681	0.0017	0.485
Dairy	0	0	0.0031	0.01	0.00041	0.0132
Other Chemicals	0.00002	0.00052	0.00039	0.06658	0.0047	0.0473
Wood Industry	0	0	0.00174	0.1242	0.002	0.1425

Table 8 shows the adjusted women labour coefficients for public sector. It shows the amount of job created for women as a result of 100 unit increase in state-owned industries. The results indicate that textiles, electricity, tobacco products have the highest labour coefficients.

Table 8 indicates women's labour coefficient in private-owned industries. Electricity, medicine, plastic products, and similar industries, in addition to printing, reveal the highest coefficients respectively. It means that growth strategies putting priority on these sectors create more jobs for women.

Since cooperative industries do not play a significant role in the economy, women's labour coefficients in these sectors are very small. Nevertheless, in six industries (copper, shortening, petroleum products, fertilizer, paper, tobacco, and cigarettes) the labour coefficients are zero. Textiles (with exception of shoes), and wood products respectively have the highest coefficients. See **Table 8**.

Given the existing labour structure, feminization of the Iranian industry private sector can be attributed largely to the development of textiles and clothing industries. So promoting growth in these industries that traditionally have been opened to female participation, such as textiles, creates more jobs for the unskilled labour. In the longer run, jobs that have been traditionally closed to women can be opened to them, increasing the female share in industry.

Allocating a large role for the public sector, state control and market interventions, inward looking trade policies, and unfavourable investment climate all acted to limit the scope and dynamism of the private sector. These policies shaped the nature of female employment in Irān. While women have relatively good opportunities in the public sector, they have some disadvantages in private sector. They work mostly in low wage jobs and there is less potential for their future promotion.

CONCLUDING REMARKS AND SUGGESTIONS

We mentioned earlier that industry is the second important sector for women occupation. About one third of working women are employed in the industrial sector. With regard to job segregation in the Iranian labour market, the women distribution in industrial sector in not

homogeneous. Women are occupied in jobs which complement the house work. These jobs are located in labour intensive sectors with low wages and low productivity. For example, 88.7% of industrial women workers engaged in textiles, and 5.3% in clothing industries. The rest, that is 6%, occupied other industries. The majority of women employed in industrial sector have education below secondary level. And, 92.5% are working in private sector. Although with the existing structure, growth in textiles and clothing sector have the highest job creation potential and decreases women unemployment rate for those with education below the secondary schooling. Progress gained in the privatization process that started after 1990, increased the number of jobs in the industry.

Because of the accelerating pace which is increasing the pattern of women holding higher education in science and technology, and given the continuing and speeding process of privatization, especially in industry, the need for change in the structure of industrial sector labour market in order to absorb more qualified (better educated) women, is becoming more necessary. The challenge is greater, especially in terms of creation of job opportunities for women in private sector. If the private sector is not able to absorb greater numbers of well educated female labour force, women's unemployment will increase. This discourages women to look for work. Thus, policies geared towards increasing women participation in the labour force must strongly focus on implementing measures designed for the reduction of gender discrimination in the private sector.

In conjunction with the above change, facilitating the increase of women's participation in the labour market will have to involve reviewing and reforming all labour market regulations that ban women's entry into the private sector. These regulations consist of eliminating the distortions that increase the cost of women employees compared to men (such as provision of child care and the like) and eliminating regulations that limit women access to certain jobs (for example women can not take the position of a judge) or regulations that restrict women's working hours. Such reforms may include introducing new legislations in areas such as part time employment,

informal work condition, self employment and social security and insurance benefits.

The overall environment should be made flexible enough to create jobs that use a vast variety of talents and educational background offered by women as well as by men. Such an environment must make labour force participation attractive to women, including work arrangements that are compatible with women's family roles. Furthermore that environment must make the hiring of women more attractive to employers.

The emergence of such a change is not possible without a change in traditional gender paradigm. This paradigm is based on the recognition that men and women differ biologically and these biological differences determine their social functions, and that men and women carry out complementary responsibilities within the family: they have different but equitable rights associated with those responsibilities and so on. The traditional gender paradigm pervades much of the law that shapes the everyday, customary, law pertaining to women. Its elements, for instance, are centrality of the family, establishing men as the sole breadwinner and the unequal power holder of the private sphere. Today, families in Irān need flexibly to adapt to the changing economic circumstances. Few families are affluent enough to allow women to play only the traditional role of homemaker. Most of the labour laws in Irān are supportive of a greater economic role for women. Laws stipulate that women should receive equal compensation for work of equal value. They offer generous maternity leave benefits and protect women against job termination in case of marriage and pregnancy. Yet even where the laws are favourable, the traditional paradigm exerts a formidable influence on the actual behaviour in the labour market. Wage discrimination and sex-based job segregation remain. As do wide gaps between the intent of the family laws and their effects in practice. A host of labour market regulations do discriminate against women. They include those governing non-wage employment benefits which affect the families of working women, and restrict women's hours and their type of work. These regulations ultimately limit the flexibility of women workers and their potential to find jobs in private sector.

Yet, in the short run, reform in regulations on the one hand, and establishing institutional support for equal opportunities, on the other, will partially fill the traditional gender paradigm. Most of the job creation opportunities made both for men and women will inevitably appear in the private sector. A broad reform is needed to move toward more integration into the world economy, to diversify economies from the excessive weight of energy sector and to create a climate conductive to private sector investment and employment creation.

REFERENCES

1. *Afshāri, Zahrā*. 2001a. ***The Economics of Planning*** (In Persian). Tehrān, Irān: SAMT Publisher.
2. *Afshāri, Zahrā*. 2001b. "The Gender Segmentation of Labour Market in Irān" (In Persian). ***Pazhoohesh Zan 1***(1):35–54.
3. *Afshāri, Zahrā*. 2002. "Women Employment and Family Welfare" (In Persian). ***Pazhoohesh Zan 1***(2):69–86.
4. *Barro, Robert J.*, and *John Lee*. 2000. ***International Data on Educational Attainment*** CID Working Paper 42. Cambridge, MA: Center for International Development (CID), Harvard University.
5. *Blau, Francine D.* 1998. "Trends in the Well-being of American Women, 1970–1995." ***Journal of Economic Literature 36***(1):112–165
6. Dex, Shirley. 1985. ***The Sexual Division of Work: Conceptual Revolutions in the Social Sciences***. Brighton, UK: Wheatsheaf.
7. *Humphries, Jane*, and *Jill Rubery*. 1984. "The Reconstruction of the Supply Side of the Labour Market: The Relative Autonomy of Social Reproduction." ***Cambridge Journal of Economics 8***(4):331–346.
8. *Garibaldi, Pietro.* 1998. "Job Flow Dynamics and Firing Restrictions." ***European Economic Review 42***(2):245–275.
9. *Garibaldi, Pietro*, and *Paolo Mauro*. 1999. ***Deconstructing Job Creation***. IMF Working Paper No. 99/109. Washington, DC: International Monetary Fund (IMF).
10. *Hartmann, Heidi.* 1976. "Capitalism, Patriarchy, and Job Segregation by Sex." ***Signs 1***(3):137–169.
11. *Heckman, James J.* 1974. "Shadow Prices, Market Wages, and Labor Supply." ***Econometrica 42***(4):679–694.
12. *Heckman, James J.* 1978. "A Partial Survey of Recent Research on the Labor Supply of Women." ***American Economic Review 68***(2):200–207.
13. International Labour Organization. 1996. ***Economically Active Population, 1950–2010***. Geneva, Switzerland: International Labour Office.
14. International Labour Organization. 2003. ***Time for Equality at Work***. Retrieved 2005 (http://www.ilo.org/dyn/declaris/DECLARATIONWEB.DOWNLOAD_BLOB?Var_DocumentID=1558).
15. *Lantican*, *Clarita P.*, *Christina H. Gladwin*, and *James L. Seale, Jr.* 1996. "Income and Gender Inequality in Asia: Testing alternative theories of development." ***Economic Development and Cultural Change 44***(2):235–263
16. *Pagán, José A.*, and *Miren Ullibarri*. 2000. "Group Heterogeneity and the Gender Earnings Gap in Mexico." ***Economía Mexicana 9***(1):23–40.

17. Pinchbeck, Ivy. 1930. ***Women Workers and the Industrial Revolution, 1750–1850***. London, UK: George Routledge.

18. *Sayed, Haneen*, and *Zafiris Tzannatos*. 1998. "Sex Segregation in the Labour Force." Pp. 302–313 in ***Women in the Third World: An Encyclopedia of Contemporary Issues*** edited by *Nelly P. Stromquist*. New York, NY: Garland Publishing.

19. *Sheibāni, Ebrāhim*, and *Zahrā Afshāri*. 2000. "The Impact of Sectoral Growth on Women Employment in Irān" (In Persian). ***Tahghighāt-é Eghtesādi 59***:36–45.

20. Statistical Centre of Irān. 1987. ***Input-Output Table of Irān*** (In Persian). Tehrān, Irān: Planning and Budget Organization.

21. Statistical Centre of Irān. 1996. ***The Statistical Yearbook*** (In Persian). Tehrān, Irān: Planning and Budget Organization.

22. Statistical Centre of Irān. 1999. ***The Detailed Result of 1996 Census*** (In Persian). Tehrān, Irān: Planning and Budget Organization.

23. Statistical Centre of Irān. 2001. ***Annual Statistics*** (In Persian). Tehrān, Irān: Statistical Centre of Irān.

24. *Tilly, Louise A.*, and *Joan W. Scott*. 1978. ***Women, Work, and Family***. New York, NY: Holt, Rinehart and Winston.

25. United Nations. 2003. ***World Population Prospects: The 2002 Revision***. New York, NY: Population Division, Department of Economic and Social Affairs, United Nations.

26. World Bank. 2003. ***Global Development Finance 2003: Striving for Stability in Development Finance***. Retrieved 2005 (http://www.worldbank.org/prospects/gdf2003/)

Authors

Zahrā Afshāri, Ph.D.,
Department of Economics, Al-Zahrā University
zafshari@alzahra.ac.ir

Professor of Economics, Al-Zahrā University, Tehrān, Irān.
She received her PhD from Indiana University, Bloomington, Indiana, USA. She is the author of 8 books on economics of development and on planning. She has written more than 50 articles for domestic and foreign journals

Imān Sheibāni, M.Sc.,
Ph.D. Student, Department of Engineering, University of Michigan

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 97 - 112

Forgiveness Scale Extended to the Iranian Families

Soosan Seif, Ph.D.
Department of Psychology, Al-Zahrā University
Farshād Bahāri, M.A.
Department of Psychology, Al-Zahrā University
Zohré Khosravi, Ph.D.
Department of Psychology, Al-Zahrā University

Abstract

The present study is conducted on standardization and normalization of the Family Forgiveness Scale (FFS) within the Iranian population. A brief description of this "scale" within the scope of family related studies is presented and other studies focused on developing similar tools for measuring the extent of forgiveness are referenced. The dimensions or sub-scales and psychiatric features of the forgiveness scale are described. The data pertaining to FFS scale for standardization and normalization on Iranian population are provided. It is shown here that there are no significant differences between men and women in realization and resolution of sub-scales. However, women are shown to be more willing to acknowledge their faults and try to compensate for their wrongdoings. The comparison of results from the present tool on Iranian families with other studies on American families indicates similar forgiveness scale between the two cultures.
Overall, the results of the present study indicate that present scaling tool is a highly reliable and valid instrument for studying Iranian families.

Keywords

Forgiveness; Scale; Tool; Standardization and Normalization; Iranian Family;

BACKGROUND

Forgiveness has become an integral part of family therapy in recent decades. The present study is focused on developing a forgiveness tool to aid the family therapists working with the Iranian families. It should be noted that this is the first time that this issue is being academically examined on the Iranian couples.

Family related studies are being conducted by family therapists since over a century ago, but the first essay on forgiveness dates back to a 1965 article titled "Failure to Forgive and Be Forgiven" by Pattison 1965. However, it seems that presentation of theoretical fundamentals and forgiveness models began with *Johnson*'s (1986) article titled "Forgiveness Model: Theoretical and Research Concepts", followed by others such as *Mauger* et al. (1992) "Measuring Forgiveness: A Preliminary Research".

Taking forgiveness seriously, that is as a strategy or intervention therapy, dates back to 1980's and 1990's. Modernity of the issue of forgiveness in family studies in general, and family therapy in particular, is due to certain factors and impediments. For instance, *Walrond-Skinner* (1998) cites: "It seems that forgiveness is more of a religious structure or concept than a psychological one". *Sells* and *Hargrave* (1998) have introduced another impediment as conceptual duality of "anti-forgiveness", owing to its closeness in concept with religion, especially in Christianity and Judaism.

The differences of opinions in therapists on the issue of forgiveness have made it rather difficult to investigate its effects on family therapy interventions. For example, *Chance* (1993) and *Nicholas* (1994) have expressed a negative attitude, while, *Sells* and *Hargrave* (1994) and *Aponte* (1998) have had a positive impression of forgiveness (Aponte, 1998).

Despite such dual and rather contradictory impressions on Forgiveness, the survey on forgiveness was mainly conducted as a process, a tool, or an intervention therapy, on the following three axes (Sells and Hargrave, 1998):

1. Validation of conceptual theories, with due regard to the process and phases of forgiveness (for instance, Enright and the Human Development Study Group, 1991; Gassin, 1996; Hargrave and Sells, 1997; Subkoviak et al, 1992).

2. Determination of the relation existing between forgiveness and other human-behaviors, such as religious bias (DiBlassio and Benda, 1991), wrongdoing-acknowledgement (Weiner et al., 1991), and age (DiBlassio and Proctor, 1993).

3. Application of forgiveness in process and efficiency studies (Hebl and Enright, 1993; McCullough and Worthington, 1995).

FORGIVENESS SCALING TOOL

In 1980's and 1990's efforts were made to develop a tool to be used for scaling the extent of forgiveness. Numerous questionnaires were drawn up on "forgiveness-scaling" (for example, Hargrave and Anderson, 1992; Enright and the Human Development Study Group, 1992; Hargrave and Sells, 1997; Mauger et al., 1992; Subkoviac et al., 1992; Pollard et al., 1998). Nevertheless, only four scales of distinguished psychiatric features, included validity and reliability, namely: 1) *Enright* Scale of Forgiveness; 2) Forgiveness of Self (FS) Scale; 3) Forgiveness of Others (FO) Scale (Mauger et al., 1992); and 4) Forgiveness Scales (Pollard et al., 1998).

Family Forgiveness Scale (FFS) that has been standardized in the present study is a combination of surveys of the following common models of forgiveness: 1) *Hargrave* and *Anderson*'s Model (1992); *Hargrave*'s Model (1994); 2) *Johnson*'s Model (1986); and 3) *Smedes*' Model (1984; 1997).

Upon examining all of the significant components of these three models, five constructs, namely, A) Realization, B) Recognition, C) Reparation, D) Restitution, and E) Resolution were identified. The Realization construct is defined as intra-psychic awareness in either the offender or offended, of an incident that caused pain and suffering. The Recognition construct is an assessment of the painful incident by either the offender or the offended. The Reparation construct is of three elements. First, confrontation about painful incident, second, admission of responsibility by the offender, and third, reciprocal asking for and giving forgiveness (Pollard et al., 1998).

The main copy of the forgiveness-scale in both the overall (total) and sub-scales of both parts of the scale is highly intra-consistent and uniform. *Kronbach*'s alpha coefficient was calculated at 0.93 which places the scale at a high range of uniformity and intra-consistency.

Further, this scale enjoys a very desirable distinction coefficient as well. The sample normalized by this scale has had 342 subjects, out of whom 229 persons were female and 113 persons were male with the ages ranging from 21 to 66 years (Pollard et al., 1998)

STANDARDIZATION AND NORMALIZATION OF THE SCALE FOR IRĀN

The objective of the present study was to standardize and normalize the Family Forgiveness Scale (FFS) for the Iranian population. The main questions raised in the course of conducting the research were as follows:

1. Does the Forgiveness Scale bear a desirable factorial loading?
2. Does the Forgiveness Scale bear a desirable factorial coefficient?
3. Does the Forgiveness Scale bear a desirable distinction coefficient?
4. What factor/factors comprise the content of Forgiveness Scale?
5. Does the Forgiveness Scale bear a desirable reliability coefficient?
6. Is there a significant difference between the level of forgiveness exhibited by men and women?
7. Is there a significant relation between education and the extent of forgiveness?
8. Is there a significant difference between the average scores of the subjects at each sub-scale of the Forgiveness Scale?

THE OBJECTIVE

The objective of the present research is to develop a reliable tool to standardize Family Forgiveness Scale. The present study is designed to be descriptive in terms of measuring and trend type. While normalizing the tool under study, this research intended to examine the roles played by the differences in gender and the level of academic education in the extent of forgiveness.

METHODOLOGY

The target population is composed of married couples with college and high school level education. The statistical population of those who have received college education included all students whose wedding ceremony was held at the universities and colleges in year 2000. The statistical population of those without College education also includes a number of married couples residing in the City of Tehrān.

It is advisable that the non-homogeneous statistical population (from the characteristics point of view) comprised of different classes be divided so a sample be selected from each class on a simple random basis. The statistical population of married couples, therefore, has a non-homogeneous structure with its classes composed of "education", "period of marriage", "age", and "number of children". These classes are internally relatively homogeneous, as a result, the "unequal proportion random stage" method of sampling was chosen. The sample in this study comprised of 762 subjects.

Sampling for the present study was made in four steps. In the first step, the statistical population under research was divided into four different classes, on the basis of the level of academic or non-academic education. In the second step, within each of the aforementioned classes, non-overlap collections of the elements of population are specified on a gender basis. The sampling is performed at various academic levels, such as: 1) Elementary and middle (junior high) school; 2) Secondary school and high school diploma holders; 3) Associate degree and Bachelor's degree holders; 4) Master's and Doctorate's degree holders. In the third step, 100 wives and 100 husbands were assigned (200 subject in total, per each individual class of education) to ensure reliability in findings and to meet the required minimum sample volume in each subgroup (Dowdy, Wearden, and Chilko, 2004). Finally, out of any inter-class units, a random sample was selected, taking into consideration the minimum sample volume (using the available sampling method). It is worth mentioning that despite calculation of the sample volume at each class, the sample volumes are not the same for different classes. As a result, there were 205 subjects at the elementary and middle school levels; 126 subjects at the secondary school and high school diploma holder level; 288

subjects Associate degree and Bachelor's degree level and 143 subjects at the Master's and Doctorate's degree level.

RESEARCH TOOL AND ITS PSYCHOMETRIC FEATURES

In the present research, the base tool for measurement of forgiveness is the Family Forgiveness Scale (FFS) developed by *Pollard* et al. (1998). This tool is widely used for measurement of the extent of forgiveness in families. Pollard and his colleagues have declared that the scale is intended to determine the extent of forgiveness in the families and also the dimensions of forgiveness. The main form of this scale includes 40 statements of set-response type composed of two parts, each including five sub-scales or five structured dimensions. The first part, which includes the first twenty statements of the scale, relates to the Family of Origin (FO); the second part, which includes the remaining twenty statements with the same sub-scales or dimensions, is related to the Primal Relationship (PR) or the nuclear family.

Each variant is comprised of a series of multiple-choice questions varying from 1 to 4 points. Some of the questions raised at this scale are inversely credited. This tool was used on 766 subjects and the results thereof were analyzed.

In order to answer the aforementioned questions raised in this research, the following statistical methods were adopted:

1. Factor-Analysis using the Method of Main Components;
2. Factor-Coefficient using the Method of Eigen Values;
3. Factor-Loading using the Method of *Kronbach*'s;
4. Distinction Coefficient using the Johnson's Method;
5. Statistical test, for two independent groups.

THE FINDINGS

Information obtained as a result of applying the FFS on 766 subjects, together with other specifications of the subjects were transformed to numeric data and then processed and extracted.

In this research, the factor loading, the distinction coefficient, and the reliability factor were measured for the present scale, the psychiatric features for the FFS. Furthermore, with respect to the

gender factor, the statistical model "t" was applied and the differences between the average for male and female samples, in forgiveness and relevant sub-scales were compared. The coefficient of correlation was also applied for the purposes of identifying the relationship existing among the number of children, period of marriage, the level of education, and extent of forgiveness. The regression was also applied to predict the level of forgiveness as indicated by such variables as number of children, period of marriage and level of education. Finally, a factor analysis of forgiveness scale, in addition to quantitative and qualitative norms, was presented in five columns and three rows.

Table 1. Factor Analysis of Sub-Scales for the Nuclear-Family Section

Components	Initial Coefficient Value	Common Variance	Density Relative Common Variance	Total
Factor I	**Realization**	53.91	53.91	2.69
Factor II	**Recognition**	14.5	68.41	0.72
Factor III	**Reparation**	12.31	80.73	
Factor IV	**Restitution**	10.83	91.57	0.54
Factor V	**Resolution**	8.43	100	0.42

Considering the **Table 1**, Method of Rotation was applied with an emphasis on the Main-Components Analysis Method. The factor coefficient for variables comprising the questionnaire on forgiveness for the nuclear-family section (in the primal-relationship) was determined as follows:

Table 2. Five Sub-Scales Coefficient Factor in the Primary Relationship Section

Factor	Factor Coefficient
Realization	0.66
Recognition	0.78
Reparation	0.71
Restitution	0.80
Resolution	0.70

The obtained factor-coefficients lie within the range of 0.70 to 0.80 (except the first factor). This minor difference shows that the tool under research, at the section of primal relationship, has construct validity and a content validity. It resembles a convergent and divergent correlation with a desirable divergent correlation with each

other and a desirable convergent correlation with the forgiveness, at the primal relationship section.

Table 3. Sub-Scales Factor Analysis for Family of Origin Section

Components	Initial Coefficient Value	Common Variance	Density Relative Common Variance	Total
Factor I	**Realization**	57.6	57.6	2.88
Factor II	**Recognition**	71.33	13.72	0.68
Factor III	**Reparation**	82.67	11.34	0.56
Factor IV	**Restitution**	92.1	9.42	0.47
Factor V	**Resolution**	100	7.89	0.39

With due regard to the content of **Table 3**, Method of Rotation was applied with an emphasis on the Main Components Analysis Method. The factor coefficient for variables comprising FFS in the family of origin was determined as follows:

Table 4. Five Sub-Scales Coefficient Factor in the Family of Origin Section of FFS

Factor	Factor Coefficient
Realization	0.81
Recognition	0.70
Reparation	0.76
Restitution	0.68
Resolution	0.73

Information given in Table 4 reveals that the factor coefficient (Restitution) lies within a range of 0.7 to 0.8 and this minor difference shows that the FFS tool has construct validity and a content validity. It resembles a convergent and divergent correlation, with a desirable divergent correlation with each other and a desirable convergent correlation with forgiveness in the family of origin.

The results shown in **Tables 1** through **4** reveal that the Forgiveness Scale is comprised of the same factors that were originally pointed out by *Pollard* et al. (1998).

Table 5. Sub-Scales Distinction Factor for the First and Second Parts of the FFS

Sub-Scale / FFS	Realization	Recognition	Reparation	Restitution	Resolution
Family of Origin	10.868	0.770	16.890	23.290	22.363
Primary Relationship	0.6140	0.8217	0.9174	11.365	0.9179
Overall Scale	5.741	0.821	8.902	17.327	11.640

Considering the content of **Table 5**, it can be deducted that since the Distinction Factors for all sub-scales in the first and the second parts and also in the overall scale are higher than 0.6, therefore, the Distinction Factor is a desirable one.

Table 6. Sub-Scales Reliability Coefficients for Family-Section of the Forgiveness Scale

Sub-Scale / FFS	Realization	Recognition	Reparation	Restitution	Resolution	Psychometric Feature
Family of Origin	0.399	0.534	0.140*	0.037*	0.437*	—
Primary Relationship	0.225	0.574	0.332	0.597	0.357	Desirable
Overall Scale	0.312	0.554	0.236	0.313	0.415	Desirable
Psychometric Feature	Desirable	Desirable	Desirable	Desirable	Desirable	—

* Have not encountered desirable Reliability Coefficients.

In regards to the information given in **Table 6**, it can be deducted that Reparation and Restitution sub-scales in the origin-of-Family section and also the Realization sub-scale in the primal-relationship section have resembled an undesirable coefficient of reliability. However, as the information provided in the overall scale clearly signifies, it can be stated that all of the sub-scales show a desirable reliability coefficient.

Table 7. Correlation between the Couple's Education and the Extent of Forgiveness at the Origin-of-Family Section of the FFS

Couple's Education	Forgiveness in the Family of origin	Extent of correlation	Level of Meaningfulness
X	Y	0.157	0.01

The information given in **Tables 7** and **8**, show that a positive and significant correlation exists between the couple's education and the extent of forgiveness in the Family-of-Origin section, the Nuclear-Family Section (Primal-Relationship) and such correlation is

significant at a level of 0.01. Thus, as the level of education is promoted, the extent of forgiveness also increases in the Family of Origin and the Nuclear Family (Primal Relationship).

Table 8. Correlation between the Couple's Education and the Extent of Forgiveness in the Primal-Relationship Section

Couple's Education	Forgiveness in the Nuclear Family	Extent of correlation	Level of Meaningfulness
X	Y	0.324	0.01

Table 9 reveals that men and women at the family of origin section; have not reported a significant difference as far as the "Realization" and "Resolution" Sub-scales were concerned. However, they have reported a significant difference in "Recognition", "Reparation", and "Restitution" sub-scales.

Men and women under-study in the primary-relationship at the "Realization", "Recognition", "Reparation", "Resolution", and "Restitution" sub-scales did not show significant differences. It seems that the observed differences are due to the fact that the husbands and wives are from different classes of families. Finally, the calculations made in sub-scales for two parts of the Forgiveness Scale questionnaire indicate that men and women in the Family-of-Origin section have reported a significant difference as far as the forgiveness sub-scales were concerned.

Regarding the section on primary relationship, they have reported no differences whatsoever, and perhaps the reason for that could have been the fact that all of the subjects were each other's spouses.

Considering forgiveness within the scope of culture, it can be noted that forgiveness is an integral part of the Iranian culture as is the case in many other cultures. In Irān, it is also important from religious point of view. There are numerous references to "Forgiveness" and "Mercy" in the holy book of Qur'an and other books from leaders of Islam throughout the history.

From a cultural standpoint, one would encounter numerous acts of forgiveness by leaders at various periods in the history of Irān. It is so engrained in this culture that the mythical heroes are not only powerful; they are always gracious and forgiving in victories.

Table 9. Average Values Comparison for Men and Women in the Sub-Scales of the FFS

Features / Gender	Average	Standard Deviation	T Value	Level of Meaningfulness	Sub-Scale	FFS
Woman	12.92	2.46	1.33	—	Realization	Family of Origin
Man	12.68	2.29				
Woman	11.92	2.20	0.69	—	Realization	Primary Relationship
Man	12.05	2.12				
Woman	12.68	2.48	2.27	0.05	Realization	Family of Origin
Man	12.26	2.47				
Woman	12.40	2.62	0.50	—	Recognition	Nuclear Family
Man	12.50	2.59				
Woman	11.79	2.38	2.73	1.01	Reparation	Family of Origin
Man	11.32	2.22				
Woman	12.64	2.34	0.71	—	Reparation	Nuclear Family
Man	12.52	2.31				
Woman	10.98	2.09	2.08	0.05	Restitution	Family of Origin
Man	10.66	2.12				
Woman	13.06	2.58	0.72	—	Restitution	Nuclear Family
Man	13.19	2.59				
Woman	10.54	2.38	1.41	—	Resolution	Family of Origin
Man	12.30	2.32				
Woman	11.44	2.06	0.95	—	Resolution	Nuclear Family
Man	11.29	2.05				
Woman	60.93	9.25	2.53	0.01	Overall Scales	Family of Origin
Man	59.28	8.39				
Woman	61.49	8.51	0.12	—	Overall Sub-Scales	Primary Relationship
Man	61.57	8.58				

In the pursuit of the present study, the authors have found adequate information to compare the forgiveness in Irān with that of United States performed by *Pollard* (Pollard et al., 1989). **Table 10** shows such comparison of *Cronbach*'s alpha for various forgiveness construct between the two cultures.

Table 10. Comparison Cronbach's alpha Factor for Various Forgiveness Constructs

Construct	Family of Origin		Primary Relationship	
	USA	**Irān**	**USA**	**Irān**
Realization	0.768	0.225	0.553	0.399
Recognition	0.821	0.574	0.736	0.534
Reparation	0.601	0.332	0.721	0.140
Restitution	0.752	0.597	0.812	0.037
Resolution	0.713	0.357	0.812	0.473

The family forgiveness reliability and efficiency coefficients, from both *Pollard* et al. (1989) and the present study are presented in **Table 11**. The comparison indicates close similarities between the two studies.

Table 11. Comparison of the Present and Pollard Studies

	Family of Origin	Primary Relation	Total
***Pollard* et al. Study**	0.94	0.92	0.93
Present Study	0.84	0.85	0.845

Others have made similar comparisons between cultures. One notable study is by *Huang* (1990). *Huang* by using a method developed by *Enright* (1989; cited in Huang, 1990) showed the similarities of forgiveness between USA and Taiwan (**Table 12**).

Table 12. Average Values of Forgiveness Comparison between USA and Taiwan
(Huang, 1990)

Age	USA	Taiwan
Fourth Grader Student	2.24	2.66
Junior High School Student	2.40	2.43
High School Student	3.08	3.18
University Student	3.96	3.60
Adults	4.16	4.47

CONCLUDING REMARKS

As verified by the findings of this research, all sub-scales of FFS have a desirable factorial loading and factor-coefficient. This provides the impression that the tool under study enjoys a desirable validity of construct and validity of content. Although the calculations related to the Distinction Coefficient reveal that the responses to two of the questions raised on the issue of FFS to be undesirable, in overall, it can be stated that the extent of sensitivity of FFS tests is at a desirable level.

As the reliability of the FFS is concerned, The "Restitution" and "Reparation" sub-scales failed to manifest a desirable reliability at the Family-of-Origin section, nevertheless, the reliability-calculation for both sections of the scale indicate that basically, the Forgiveness Scale enjoys a desirable reliability (> 0.2). An analysis of the information related to the comparison of the average scores acquired by women

and men demonstrate those, women compared to men, have exhibited a higher degree of forgiveness at the "Recognition" and "Reparation" sub-scales in the Family-of-Origin Section. In other words, it can be stated that gender-differences play a role in "Recognition" and making efforts for "Reparation" purposes. Furthermore, women are more willing to acknowledge their faults and try to compensate for such wrongdoings.

A lack of difference, however, in average scores acquired by women and men on the issue of "Forgiveness" seems to be due to the fact that men and women under study were husbands and wives and each individual did not belong to a nuclear family. Finally, an overall coefficient of reliability of 0.85 was obtained for the questionnaire, which is desirable.

The comparison of results from the present tool on Iranian families with that of *Pollard* on American families indicates similar forgiveness scale between the two cultures.

As a result, it can be stated that the forgiveness scale developed in this study is a highly reliable and valid tool for application to study of the Iranian families. Therefore, it is strongly advised that this scale be applied on family therapy interventions and consulting and also in future research on the Iranian families.

REFERENCES

1. *Aponte, Harry J.* 1998. "Love, the Spiritual Wellspring of Forgiveness: An Example of Spirituality in Therapy." ***Journal of Family Therapy 20***(1):37–58.
2. *Chance, Sue*. 1993. ***A Voice of My Own***. Cleveland, SC: Bonne Chance Press.
3. *Davenport, Donna S.* 1991. "The Function of Anger and Forgiveness: Guideline for Psychotherapy with Victims." ***Psychotherapy 28***(1):140–144.
4. *DiBlassio, Frederick A.*, and *Brent B. Benda.* 1991. "Practitioners' Religion and the Use of Forgiveness in the Clinical Setting." ***Journal of Psychology and Christianity 10***(2):166–172.
5. *DiBlassio, Frederick A.*, and *Judith Harris Proctor*. 1993. "Therapists and the Clinical Use of Forgiveness." ***American Journal of Family Therapy 21***(2):175–184.
6. *Dowdy, Shirley*, *Stanley Wearden*, and *Daniel Chilko*. 2004. ***Statistics for Research (Wiley Series in Probability and Statistics)***. 3rd Edition. New York, NY: Wiley-Interscience.
7. *Enright, Robert D.*, and the Human Development Study Group. 1991. "The Moral Development of Forgiveness." Pp. 123–152 in ***Handbook of Moral Behavior and Development Vol. 1*** edited by *William M. Kurtines* and *Jacob L. Gewirtz*. Hillsdale, NJ: Lawrence Erlbaum Associates.
8. *Gassin, Elizabeth A*. 1996. "Receiving Forgiveness from Others." Presented at the 27th Annual Mid-Winter Convention of the American Psychological Association, 28–31 March 1996, Scottsdale, AZ, USA.
9. *Hargrave, Terry D.* 1994. ***Families and Forgiveness: Healing Wounds in the Intergenerational Family***. New York, NY: Brunner/Mazel Publishers.
10. *Hargrave, Terry D.*, and *William T. Anderson*. 1992. ***Finishing Well: Aging and Reparation in the Intergenerational Family***. New York, NY: Brunner/Mazel.
11. *Hargrave, Terry D.*, *Glen H. Jennings*, and *William T. Anderson*. 1991. "The Development of a Relational Ethics Scale." ***Journal of Marital and Family Therapy 17***(2):145–158.
12. *Hargrave, Terry D.*, and *James N. Sells*. 1997. "The Development of a Forgiveness Scale." ***Journal of Marital and Family Therapy 23***(1):41–63.
13. *Hebl, John H.*, and *Robert D. Enright*. 1993. "Forgiveness as a Psychotherapeutic Goal with Elderly Females." ***Psychotherapy 30***(4):658–667.
14. *Hope, Donald*. 1987. "The Healing Paradox of Forgiveness." ***Psychotherapy 24***(2):240–244.

15. *Huang, Shih-Tseng Tina*. 1990. "Cross-Cultural and Real-Life Validation of the Theory of Forgiveness in Taiwan, The Republic of China." Doctoral Dissertation, University of Wisconsin, Madison, WI.

16. *Johnson, Karen Alexandria*. 1986. ***A Model of Forgiveness: Theory Formulation and Research Implications***. La Mirada, CA: Biola University.

17. *Mauger, Paul A.*, *Jacqueline E. Perry*, *Tom Freeman*, *Dianne C. Grove*, *Alicia G. McBride*, and *Kathleen E. McKinney*. 1992. "The Measurement of Forgiveness: Preliminary Research." ***Journal of Psychology and Christianity 11***(2):170–180.

18. *McCullough, Michael E.*, and *Everett L. Worthington*. 1995. "Promoting Forgiveness: A Comparison of Two Brief Psychoeducational Group Interventions with a Waiting List Control." ***Counseling and Values 40***(1):55–68.

19. *Nicholas, Mary W*. 1994. ***The Mystery of Goodness and the Positive Moral Consequences of Psychotherapy***. New York, NY: W. W. Norton.

20. *Pollard, Margie W.*, *Ruth A. Anderson*, *William T. Anderson*, and *Glen H. Jennings*. 1998. "The Development of a Family Forgiveness Scale." ***Journal of Family Therapy 20***(1):95–109.

21. *Sells, James N.*, and *Terry D. Hargrave*. 1998. "Forgiveness: A Review of Theoretical and Empirical Literature." ***Journal of Family Therapy 20***(1):21–36.

22. *Smedes, Lewis B.* 1984. ***Forgive and Forget: Healing the Hurts We Don't Deserve***. New York, NY: Simon and Schuster.

23. *Smedes, Lewis B.* 1997. ***The Art of Forgiving: When You Need to Forgive and Don't Know How***. Nashville, TN: Moorings.

24. *Subkoviak, Michael J.*, *Robert D Enright*, *Ching-Ru Wu*, *Elizabeth A. Gassin*, *Suzanne Freedman*, *Leanna M. Olson*, and *Issidoros Sarinopoulos*. 1992. "Measuring Interpersonal Forgiveness." Presented at the annual meeting of American Educational Research Association, 3–7 April 1992, San Francisco, CA, USA.

25. *Tournier, Paul*. 1962. ***Guilt and Grace***. Translated from the French by *Arthur W. Heathcote*. New York, NY: Harper and Row.

26. *Walrond-Skinner, Sue*. 1998. "The Function and Role of Forgiveness in Working with Couples and Families: Clearing the Ground." ***Journal of Family Therapy 20***(1):3–20.

27. *Weiner, Bernard*, *Sandra Graham*, *Orli Peter*, and *Mary Zmuidinas*. 1991. "Public Confession and Forgiveness." ***Journal of Personality 59***(2):281–312.

Authors

Soosan Seif, Ph.D.,
Department of Psychology, Al-Zahrā University
susansafe2000@yahoo.com

Professor of Psychology, Al-Zahrā University, Tehrān, Irān.
She received her PhD in family and child study from Syracuse University, Syracuse, New York, USA. She has conducted more than 50 research projects. Currently she is Dean, Department of Educational Science and Psychology at Al-Zahrā University

Farshād Bahāri, M.A.,
Department of Psychology, Al-Zahrā University
fbahari2000@yahoo.com

Post-graduate Student of Psychology, Al-Zahrā University, Tehrān, Irān.

Zohré Khosravi, Ph.D.
Department of Psychology, Al-Zahrā University
zohreh_khosravi@yahoo.com

Associate Professor of Psychology, Al-Zahrā University, Tehrān, Irān.

She received her PhD in clinical psychology from University of New South Wales, Sydney, New South Wales, Australia. She has written many articles on psycho-social pathology emphasizing women's issues and cultural and cognitive aspects

Women's Studies Vol. 3, No. 3 | Winter 2006 | pp. 113 - 125

Aggression of Husbands against Wives in the City of Shirāz

MohammadTaghi Imān, Ph.D.
Department of Sociology, University of Shirāz
Habib Ahmadi, Ph.D.
Department of Sociology, University of Shirāz

Abstract

This survey expounds the role of the socio-economic factors in the explanation of aggression of husbands against their wives. The survey's assumptions have been developed from social learning approach and from the comparative historical theories. This is a survey method research which examines the physical, mental, social, and economic aspects of aggression of husbands toward wives. The self-report data was obtained through a questionnaire from a sample of 1500 wives residing in Shirāz. Simple and multiple regressions were used in the data analysis. The findings of this study suggest that there are significant relationships between the aggressive behaviour of husbands against their wives and their parents' addiction, the attitude of the husbands toward religion, the employment of the wives and the aggressive behaviour against wives by their parents.

Keywords

Aggressive Behaviour; Husband Aggression; Physical Aggression; Mental Aggression; Social Aggression;

INTRODUCTION

Aggression is a behaviour with the purpose of causing harm and suffering and imposing various kinds of offences on others (Baron and Bell, 1957; Moghaddam, 1997). Generally, there are two explanations for aggression: causal and normative. Each one of these explanations consists of specific theoretical approaches. The causal explanation considers the physiological approaches, the environmental factors of aggression, the realistic conflict approach, the evolutionary theory of aggression, and the frustration aggression theory. The normative explanation encompasses the social learning approach and the comparative historical theory which stress the relationship between culture and aggression.

This research examines the physical, mental, social, and economic aspects of aggression of husbands toward their wives in light of the theoretical approaches of causal explanation and frustration aggression. The causes of the situational and social conditions that lead to aggression have also been investigated. The cultural conditions in Irān are such that one can gain access to reliable data on problems such as sexual aggression. However, some studies confirm the relationship between the economic and social status of husbands and the different degrees of aggression (Messner, 1980; Landau, 1984). Data from Germany, India, Israel, Japan, and the United States of America show that low economic status could lead to higher levels of violent offences. It is argued that weaker economic status causes deprivation which leads to more aggression (Landau, 1984).

In the normative explanations of aggression, it is maintained that the aggression of husbands toward their wives, like all other social behaviours, is an action on a manner that they find suitable in the environment that they live. This explanation of aggression emphasizes learning of some skills for identifying and using the normative systems. This approach consists of two theories:

1. The social learning theory brings up the assumption that behaviour through observation and imitation is learned by reward and punishment (Bandura, 1973; Nisbett; 1993; Moghaddam, 1997). Experiencing and observing violent and hostile behaviour by husbands, increase aggressive behaviour. The above statement is also true of wives.

2. Another theory that helps to better understand the relationship between normative systems and aggression is the comparative historical theory. The comparison of a society in the course of time, or the comparison of two different societies in the same geographical region show that aggression stems from the normative systems of a society (Hart, Pilling, and Goodale, 1988).

THE THEORETICAL FRAMEWORK

The causal explanations of aggressive behaviour of husbands toward their wives are determined by certain factors such as the specific physiological, hormonal, and genetic structures of men (Witkin et al., 1976). Based on this explanation, aggression toward women is caused by sudden strong emotions and is usually not based on premeditated plan to achieve certain material goals. The normative explanations on the aggression of husband toward their wives argue that this behaviour is shaped by certain cultural rules and regulations. In normative approach, aggression toward women is explained through reference to cultural norms which codes right behaviour in a certain situation. For example, causal explanations relate differences in kind and degree of aggression to physiological differences between males and females. On the contrary, normative explanations claim that in most societies, norms that regulate aggressive behaviour for men and women are different. Even within a specific normative system, individuals can fully act with a certain degree of autonomy, which in some situations excessive assertion and use of autonomy may lead to aggressive behaviour. Although people often follow the norms of their own ethnic groups, in certain situations, some people change their accepted manners to achieve their goals and thus become aggressive.

The view that the aggression of the husbands toward their wives may be the result of deprivation has been confirmed by experimental studies. In general, the normative explanations argue that aggressive behaviour is better understood in the context of the cultural structure of the society, because the individual learns how and when to be aggressive through the cultural norms. So, the aggression of husbands against their wives follows the patterns of their ethnic norms which have been internalized in husbands. Aggression which is grown in a specific social context has a cultural base. Normative explanation is

able to present and discuss this behaviour more culturally rather than environmentally and individually.

RESEARCH METHODOLOGY

The survey method is used in this research. All the families living in the Shirāz (one of metropolitan centres of Irān) in 2001 are considered as the population in this research, and married women (married more than one year) are the responders. Sampling was conducted in accordance with the stratified random sampling method, using line's table with the reliability of 95%. Hence the sample includes 1500 wives. The questionnaire was designed based on the relevant literature and its validity and reliability verified through a pilot study used for collecting data. Aggression against women at home is a dependent variable in this research. The indices for aggression against women at home include physical, mental, social, and economic aggression. The independent variables in this research are: demographic attributes (e.g., age and gender); socioeconomic factors (e.g., occupation and income); cultural factors (e.g., observing and experiencing aggression in the family and commitment to religious beliefs); biological and mental factors (e.g., drug addiction records and sterility).

Consultation with experts in the field of humanities has been used to test validity, and for testing the reliability *Cronbach* Alpha was utilized. The *Cronbach* Alpha coefficient resulted from the consistency test is 0.817. In this research, the statistical techniques, used at the level of descriptive statistics, include frequency distribution. At the level of inferential statistics, simple and multiple regressions were included.

DATA ANALYSIS

In this research, the aggression of the husbands against their wives has been measured in its physical, mental, social, and economic aspects. **Table 1** shows women's comments on their husband's aggression in relation to items scaled in different dimensions.

Table 1. Women's Views on the Aggressive Behaviour of their Husbands

Dimension	Item	Never	Seldom	Sometimes	Often	Always
Economic	Not giving money for expenditure to you	72.0	12.2	10.8	3.5	1.5
	Constant control over your expenditure	68.8	10.6	11.1	6.0	3.5
	Not telling you about his income	65.8	7.2	14.5	7.2	5.3
	Opposing to your having a job	38.0	3.2	8.6	8.1	43.1
Psychological	Rage, frowning and sour action	32.4	42.5	19.4	3.6	2.1
	Shouting and yelling	26.7	22.4	29.3	16.5	5.1
	Actions or comments against you	30.5	31.4	23.8	7.5	6.6
	Humiliating you because of your physical appearance	80.6	12.2	5.0	1.9	0.3
	Threatening you with a knife or a gun	98.1	0.5	1.0	0.4	0.0
Social	Swearing and insulating	58.1	22.8	13.3	4.9	0.9
	Making fun of you in front of others	85.7	8.1	4.0	1.6	0.6
	Throwing you out of the house	91.4	5.5	2.2	0.4	0.5
	Threatening and harming the people you like	92.9	3.1	3.2	0.5	0.3
	Prevents you from meeting your friends	59.0	10.2	15.9	9.0	5.9
	Prohibiting you from meeting your parents and relatives	77.7	11.3	7.4	2.6	1.0
	Locking you up in the house	92.7	2.7	3.2	0.7	0.5
	Following you and spying on you	89.0	4.8	4.9	0.4	0.9
Physical	Beating you or throwing things at you	80.2	9.1	7.5	2.4	0.8
	Breaking the household objects or throwing them at you	87.2	6.4	5.2	0.8	0.4
	Throwing things at you	79.4	8.6	8.7	3.0	0.3
	Pushing and shoving you	87.2	11.3	7.3	2.9	0.3
	Slapping you	70.0	16.2	9.4	3.6	0.8
	Pulling your hair	78.6	11.5	6.4	3.0	0.5
	Punching and kicking you	79.7	10.3	4.8	3.8	1.4
	Hitting you with some objects	88.7	4.8	3.2	2.5	0.8
	Beating you up with a belt or a stick	98.1	1.3	0.5	0.1	0.0

PEARSON CORRELATION COEFFICIENT TEST

The results obtained from the Pearson correlation test (**Table 2**) show that the cultural factors play the most important role in the explanation of the rate of the aggressive behaviour against women. Among these factors, the memories of the husband from the aggressive behaviour of his parents and the observance for aggressive behaviour between the parents of the husband show the highest correlation of aggressive behaviour of the parents of the husbands against their wives. The correlation coefficients of these two variables are 0.46 and 0.42. Positive coefficient means direct relationship between these variables and dependent variable. It means that the men who have observed

highest degrees of aggressive behaviour between their parents, or the men whose parents have treated each other roughly, would tend to treat their wives roughly. The same relationship exists between the aggression rate of the parents' use of violence experienced by a spouse, the observance of aggression of the parents against each other; with the rate of the aggression against her. The Pearson correlation coefficients obtained are 0.28 and 0.27. These results indicate that the way the couples have socially adapted to aggressive behaviours has a direct relationship to committing aggression in their own marital life. It means that their socialization process produces and condones aggression behaviour against women.

Table 2. Pearson Correlation between Independent Variables and the Rate of Aggression against Women

Independent Variable	Correlation Coefficient
The aggressive behaviour experienced by the husband	0.46
Observance of aggressive behaviour by the husband	0.42
Husband's attitude toward religion	-0.40
The aggressive behaviour experienced by the wife	0.28
Observance of aggression by the wife	0.27
Husband's level of education	-0.21
Wife's attitude toward religion	-0.21
Wife's age	-0.15
The difference in the level of education of the couples	-0.13
Wife's level of education	-0.12
Wife's income	-0.11
Age difference of the couples	0.11
Husband's age	-0.10
Husband's income	-0.06
Duration of marriage	-0.03
Number of the children	-0.03
The difference in the level of income of the couples	-0.01

$P < 0.01$; $P < 0.001$

Another cultural factor is the attitude of the couples toward religion. In contrast to other variables, this variable has a reverse effect on the rate of aggression of the couples against each other. The Pearson correlation coefficient for the couples' attitudes toward religion, and the rate of aggressive behaviour that they commit against each other are -0.40 for men and -0.21 for women. This result means

that couple's religiosity strengthened the tendency to respect, and thus caused fewer cases of resorting to aggression.

The results show that the education level of the couples has a reverse effect on aggression rate in their marital life. The Pearson correlation coefficient concerning the level of education and the display of aggression is -0.21 for men and -0.12 for women. The age of husbands, as a demographic factor, has a reverse effect on aggressive behaviour ($r = -0.10$). Furthermore, as the age difference increases, so does the possibility of displaying aggressive behaviour ($r = 0.11$). An interesting point is that, there is a negative relationship between wife's income and aggressive behaviour of their husbands. So, it can be argued that this economic factor plays a more important role than other factors in causing aggressive behaviour. It means that, an increase in wife's income leads to less aggressive behaviour. **Table 2** shows the Pearson correlation coefficient of independent variables and the rate of aggression against women. As indicated in the table, there are not any significant relationships between the incomes of the husbands, the duration of marriage, number of children, the difference in the income level of the couples, and the dependent variable.

The Multiple Regression Test

In the multiple regression test, in addition to that 13 variables that showed significant relationships to aggressive behaviour against women, two other variables which are nominal variables and indicate if the wife is employed or not, and if the husband is addicted to drugs or not, have also been added to the equation. Out of the 15 variables which were studied, 6 variables include the husband being treated aggressively by his parents, the wife being treated aggressively y her parents, the observance of aggressive behaviour of the parents against each other, the husband being addicted or not and the wife being or not employed were added to the equation, and as a whole, they explain 42.95 per cent of the variation dependent variable ($R^2 = 0.4295$).

According to the B coefficients of the regression equation, for each unit that is increased in the rate of aggressive behaviour against the husband by his parents, there is a 0.91 unit increase in the rate of aggressive behaviour of the husband against his wife.

Also, the rate of the aggressive behaviour of the women whose husbands are addicted to drugs is 11.14 percent higher than those whose husbands are not addicted. One unit increase in the rate of the attitude of the religiosity of husbands leads to 0.79 unit decrease in their aggressive behaviour. Also, one unit increase in the rate of observance of the aggressive behaviour of the parents against each other by the husband, leads to an increase of 0.863 in the rate of his aggression. Furthermore, the average rate grade for the aggressive behaviour against the women who are employed is 4.67 less than the average rate grade for the housewives. Finally, one unit increase in the rate of aggressive behaviour displayed against women by their parents leads to one unit increase in the rate of aggressive behaviour of the couples against each other.

According to the β coefficients of this equation the aggressive behaviour of the parents of the husband against him plays the most important role in explaining the aggressive behaviour against women ($\beta = 0.29$). Furthermore, this variable examines the addiction of husbands as the main factor in aggressive behaviour against women. The β coefficient of this variable is 0.27. As we can see, the β coefficients for the two variables bear the same value. According to the β coefficients, the attitude of the husband toward religion, the observance of aggressive behaviour of the parents against each other by husbands and the employment of women, each play a role in explaining the aggressive behaviour against women. **Table 3** shows the equation of aggressive behaviour against women in terms of B and β coefficients.

Table 3. The Regression Equation of Aggressive Behaviour against Women in terms of B and β Coefficients

Independent variables	B	β	T	Sig.
Aggressive behaviour against husband by their parents	0.91	0.29	16.43	0.00
Addiction	11.14	0.27	10.85	0.00
Attitude of the husband toward religion	-0.79	-0.22	-8.66	0.00
Observance of aggressive behaviour of parents by husband	0.86	0.18	6.47	0.00
Employment of the wife	4.67	0.12	5.32	0.00
Aggressive behaviour against wives by their parents	0.57	0.10	4.28	0.00
Constant number	5.70	-	3.87	0.00

$R^2 = 0.4295$; Sig. = 0.00; df = 6 and 1174; F= 147.3

DISCUSSION AND CONCLUSION

Aggression as a meaningful social action can reinforce various imbalances in different social systems. Aggression is a kind of social deviation which reflects domination and the violation of the rights of people. In some countries, aggression against wives has created a situation where women are denied responsibility and empowerment in the family and in the social system at large.

In Irān the family, as an active social unit, plays an important role in the process of socialization. Although in the process of social changes in Irān, the family has moved away from tradition and has leaned toward modernization, the family as an institution unit has not lost its strength because of the cultural, national, and religious support bases it enjoys. In the family, father and mother are two basic members who manage this social unit. The ambiguity in defining parents' roles and the mutual relationships, have led to the fact that male chauvinism is still being strengthened in family by traditional prejudice. Male superiority in the family which is supported by tradition has led to the dominance of the men over women, hence the aggression of the husbands against their wives. The overall condition causes aggression which is experienced in the families. It is developed in different degrees and forms. Thus an experience is stored in the meaning system of the members of a family and may be displayed later as the time seems to require. Therefore, aggression is considered a significant social act which is acquired in the process of socialization.

The occurrence of social changes in Irān, and rational conceptualization of religion have weakened the traditional support for the illogical family relationships (especially the relationship between husband and wife) and the gradual tendency toward the humanistic approach is being strengthened. Illogical perceptions are replete with personal discrimination and collective stereotypes which are common in tradition societies. Certainly, carefully planned and well organized activities should be devised and implemented within the social context to encourage wise and harmonized interactions of the family members. To achieve this goal the Iranian authorities in charge of the social affairs should make it their main task to focus on

the humanistic principles of Islam and make them practicable in the familial contexts.

According to the data obtained in this research, the opposite relationship between the attitude toward religion and the aggression against women is indicative of the fact that the factor of religion can have a positive effect on controlling and weakening violence in general, and sexual violence in particular, in the Iranian society. What seems to be important is the theoretical agreement of the authorities of the social affairs on the religious ideology and their offering of definitions relating to the theoretical aspects of religion concerning the social life of people.

Providing more appropriate opportunities for women in the areas of education and employment can build an effective barrier against the aggression of husbands against their wives in the family system of Irān. Although, traditional, ethnic, and tribal prejudice still overshadows factors such as the level of education and employment, the operative/functional status of women, and the process of modernization in Irān are not in favour of such prejudices.

Providing more opportunities for women to take on responsibilities by increasing their skills and their level of education and making it possible for them to apply those skills within social institutions will lead to acquisition of more power against the traditional domination of men. In this process, it should be taken into account that since the process of modernization, i.e., the rise in women's education and skills, does not conform well to the traditional framework of cultural norms, and hence the problem of its feasibility. In such a situation women's expectations may lead to radical changes (e.g., mental crisis in the lives of women). Therefore, it is crucial that the measures by which women's power and responsibilities are meant to be increased take effect relative to those of men, so that the balance of the division of the labour and the family relationships would not be upset.

The establishment and development of exclusive civil organizations for women, is a way of providing women with power. Defining the privacy of women and the provision of proper institutional means to protect that privacy can support women's independent identities. Men, in light of such an institutional

framework, will recognize and respect women's privacy. This will encourage some kind of balance in their relationships. Along this course of action, non-governmental organizations (NGOs) for women, which are founded on the basis of logic, can increase women's power. A few cases of conditionality are in order: if these organizations sustain their nongovernmental backbone, if it their mains their goal to increase women's awareness and of enabling them to gain a better recognition of their rights in the society, and if women are shown that the proper way of achieving their rights passes through organization and reasonability, then a solid bedrock for the realization of women's identity can be envisioned. With the active participation of women, these organizations in pursuit of their policies can recognize women's problems and take measures leading to their logical and creative solution. To be sure, through a balanced implementation and control of such a process, as described above, the traditional men's view of women will be greatly enhanced, and the values and social identities of women will be strengthened. This would be beneficial to both women and men as co-founders of the family.

REFERENCES

1. *Baron, Robert A.*, and *Paul A. Bell*. 1975. "Aggression and Heat: Mediating Effects of Prior Provocation and Exposure to an Aggressive Model." ***Journal of Personality and Social Psychology 31***(5):825–832.

2. *Bandura, Albert*. 1973. ***Aggression: A Social Learning Analysis***. Englewood Cliffs, NJ: Prentice-Hall.

3. *Bandura, Albert*, and *Richard H. Walters*. 1959. ***Adolescent Aggression: A Study of the Influence of Child-Training Practices and Family Interrelationships***. New York, NY: Ronald Press.

4. *Hart, Charles William Merton*, *Arnold R. Pilling*, and *Jane C. Goodale*. 1988. ***The Tiwi of North Australia***. 3rd Edition. New York, NY: Holt, Rinehart and Winston.

5. *Landau, Simha F.* 1984. "Trends in Violence and Aggression: A Cross-Cultural Analysis." ***International Journal of Comparative Sociology 25***(1-2):133–158.

6. *Messner, Steven F.* 1980. "Income Inequality and Murder Rates: Some Cross-National Findings." Pp. 185–198 in ***Comparative Social Research, Vol. 3*** edited by *Richard F. Tomasson*. Greenwish, CT: JAI Press.

7. *Moghaddam, Fathali M.* 1997. ***Social Psychology: Exploring Universals across Cultures***. New York, NY: W. H. Freeman and Company.

8. *Nisbett, Richard E.* 1993. "Violence and U.S. Regional Culture." ***American Psychologist 48***(4):441–449.

9. *Witkin, Herman A.*, *Sarnoff A. Mednick*, *Fini Schulsinger*, *Eskild Bakkestrøm*, *Karl O. Christiansen*, *Donald R. Goodenough*, *Kurt Hirschhorn*, *Claes Lundsteen*, *David R. Owen*, *John Philip*, *Donald B. Rubin*, and *Martha Stocking*. 1976. "Criminality in XYY and XXY Men." ***Science 193***(4253):547–555.

Authors

MohammadTaghi Imān, Ph.D.,
Department of Sociology, University of Shirāz
iman@shirazu.ac.ir

Associate Professor of Sociology, University of Shirāz, Shirāz, Irān.

He received his PhD from University of New South Wales, Sydney, New South Wales, Australia. He specializes in quantitative and qualitative methods.

Habib Ahmadi, Ph.D.,
Department of Sociology, University of Shirāz
ahmadi@shirazu.ac.ir

Associate Professor of Sociology, University of Shirāz, Shirāz, Irān.

He received his PhD from University of Wollongong, Wollongong, New South Wales, Australia. His research interests include sociology of deviance and social psychology. His books include *Social Psychology*, and *Gender Psychology* (both in Persian).