

RESEARCH

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ANALYSIS OF SOCIAL NETWORKS OF WOMEN WORKERS. THE CASE OF THE WORK IN RESEARCH

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ABSTRACT

The goal of the paper is to reveal how social networks are used by the woman researcher to achieve the research work. The study integrates a theoretical analysis on women and work starting from the conceptions of the sociology of the work, valued from the perspective of women, pretending to give weight to the positioning of the later self-story focused on women doing scientific research. Subsequently the conceptions of social networks are mentioned and the analyses to deal with them. The document reveals the relationship of located knowledge that starts from the researcher herself in the study theme on women and work, from a definition of categories identified as their social networks of learning (knowledge), networks of professional collaboration and networks of daily work. Analyzing the frequency of use, the scales of trust, the structures generated and the social networks that foster greater scientific enrichment.

KEY WORDS

Social Networks - Social Networks Analysis - Women - Work - Women workers - Women researchers - Women scientists.

ANÁLISIS DE LAS REDES SOCIALES DE LAS MUJERES TRABAJADORAS. EL CASO DE LA LABOR DE INVESTIGACIÓN

RESUMEN

El objetivo del documento es el de dejar ver la manera en que las redes de sociales son utilizadas por la mujer investigadora para lograr el quehacer investigativo. El estudio integra un análisis teórico sobre mujeres y trabajo partiendo desde las concepciones de la sociología del trabajo, valoradas desde la perspectiva de las mujeres, pretendiendo dar peso al posicionamiento del posterior autorrelato centrado en mujeres que realizan investigación científica. Posteriormente se mencionan las concepciones de redes sociales y los análisis para abordarlas. El documento deja ver

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la relación del conocimiento situado, que parte de la propia investigadora con el tema en estudio sobre mujeres y trabajo, desde una tipificación de categorías identificadas como sus redes sociales del saber (de conocimiento), redes de colaboración profesional y redes de trabajo cotidiano. Analizando su frecuencia de uso, las escalas de confianza, las estructuras que se generan y las redes sociales que propician mayor enriquecimiento científico.

PALABRAS CLAVE

Redes sociales - Análisis de redes sociales - Mujeres - Trabajo - Mujeres trabajadoras - Mujeres investigadoras - Mujeres científicas.

ANÁLISES DAS REDES SOCIAIS DAS MULHERES TRABALHADORAS. O CASO DO TRABALHO DE INVESTIGAÇÃO

RESUMO

O objetivo do documento é deixar ver a maneira em que as redes sociais são utilizadas pela mulher investigadora para conseguir o trabalho de investigação. O estudo integra uma análise teórica sobre mulheres e trabalho desde as concepções da sociologia do trabalho, valoradas desde a perspectiva das mulheres, pretendendo dar importância ao posicionamento do posterior auto-relato centrado em mulheres que realizam investigação científica. Posteriormente, mencionam as concepções das redes sociais e as análises para abordar-las. O documento deixa ver a relação do conhecimento situado, que parte da própria investigadora com a questão em estudo sobre mulheres e trabalho, desde uma tipificação de categorias identificadas como suas redes sociais do saber (do conhecimento), redes de colaboração social e redes de trabalho cotidiano. Analisando sua frequência de uso, as escalas de confiança, as estruturas que se geram e, as redes sociais que propiciam maior enriquecimento científico.

PALAVRAS CHAVE

Redes Sociais - Análises de Redes Sociais - Mulheres - Trabalho - Mulheres Trabalhadoras - Mulheres Investigadoras - Mulheres Cientistas.

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1. INTRODUCTION

Intended to account for the social networks used by women researchers, by the labor of their work is the main task of this document. To display a social network analysis proposed by different types of social networks of collaboration was the way that was intended to follow. For that, it was agreed to start on one hand, from the current

consideration of work performed by women up to the specific category of women researchers and on the other to present and discuss the general approach of social networks - personal, family networks, informal of sharing, virtual organization networks, networks of scientific and professional collaboration and their prospects of analysis-, trying to locate specific cases for women.

And as a case of opportunity, the chance to capture the daily reflections of the author in the field of this research was presented. The aim of the paper is to reveal how the collaboration networks are used by the researcher to achieve the research work. The theoretical basis starting from the conceptions of the sociology of work and employment is presented, assessed from the perspective of women, with a feminist approach, pretending to give weight to the positioning of the later self-story. The document reveals the relationship of the located knowledge that starts from the researcher herself with the subject under study (Blanco, 2012) from a classification of categories identified as their networks of learning (knowledge), their networks of professional collaboration and their networks of everyday-family labor.

The contributions of the study are conducted in the field of sociology of work, from a feminist perspective, making visible the settings and networks that the researcher must mobilize to continue their research itinerary and potentiate their professional strength. The analysis adds to the qualitative studies on women's experiences of the present generation and their incorporation into the world of work.

Work situations can be displayed in a new light of analysis from the sociology of employment. The employment relationship involves a social construction, as not only representing a market phenomenon. To Maruani (2000b) the recomposition of the active population are not only demographic movements or economic developments, they are also social processes that find their roots in the evolution of society and in the behavior of social actors. The definitions of the French sociologist about labor and employment, reside in more operational than conceptual concepts, more sociological than economist. In its position he conceptualizes and differentiates the work (understood as an activity of production of goods and services and the set of conditions for the exercise of such activity) of the employment (understood as a set of rules for access and exit the labor market and the translation of the work activity in terms of social status) which, although at first glance, seem schematic, the difference is not without utility. The status of the employment structure the labor statute, modifies the mapping of social gaps in businesses and organizations.

Moreover, labor studies in recent years have shown a growing labor incorporation of most adult household members, promoting new social processes in the family organization. Men and women enter the labor market and family adjustments arise. In a predominant work organization, another consideration appears, given by Abramo & Todaro (2006): the normal and abnormal worker, the first is associated with daily routines are conditioned by labor assistance and the second is associated with the routines characterized by particular specificities. The female researchers mention that from the labor environment there should be considerations of extra-labor life of the people, in the redesigning of work processes, labor and human resources policies. In the social productivity the needs of family and personal life should be considered, not only issues of biological reproduction but requirements of

cultural and civic education in agreement with the technological, productive and democratic development.

1.1. The work of women.

In the analysis of labor and employment, progress on the perspective of women in the workplace appear. The gender perspective in the world of work is one of the most evident in society, possibly because of its importance regarding access to other social resources; work is one of the areas that receive more attention in the collective effort to deconstruct gender inequality. Men and women have noticeable biological differences and in the socialization process they are attributed different roles and values; the inequalities are socially constructed (Macías, 2013). The name of Cervantes on generic consensus of the social conditions of women, which mentions González (1997) are: that women share an oppressive situation in society (and with different levels of social analysis, not perceiving all in the same way their condition and the existence of various forms of inequality), and that social inequalities are built. Since the late seventies until the beginning of the year two thousand Maruani (2000a) mentions that there have been various transformations, ruptures and critical gaps in the feminization of the labor market in an environment of deprivation. There exists an influx in the progress of incorporation of women into the labor market as well as advances in female schooling. In the European context, the history of women's employment, its variants and the progressive incorporation of women to work in environments crisis, massive, long-term and structural incorporation stoppages and characterized by inequality based on sex are analyzed. The first studies on women's activity took place in the sixties and later in the decade of the seventies radical feminists movements and the incorporation of women to universities and research centers appeared, as in the French case of the Centre International de la Recherche Scientifique; where studies on the work of women - -domestic and professional, the gender relations and the social division of labor arose.

In this same perspective from the Latin American environment, Abramo & Todaro (2006) state that the costs of reproduction and the domestic are absorbed by the non-mercantile work of women. However, wages between men and women are generally different, in the business landscape the costs of employing a woman are greater (by the assumption of domestic and family responsibilities, considered as additional factors to costs, coupled with the risk of the eventuality), existing gaps of gender equity related to social conditions of women. In this context the question appears about what are the adequate measures to increase the productivity of women?, because labor productivity of any individual, always depends on the process and the context in which they are embedded. Current measurements of productivity cited by the authors integrate a systemic definition that goes beyond an accurate calculation of operations defined in individual terms when stating the position of Zarifian given in 1997. Turning in the advance the time with more complexity (and also insufficient) when defining the productivity of each particular individual or the individual's specific contribution to the overall productivity of the company (in his case), without considering these factors more systemic.

On the employment of women by sectors, Abramo and Valenzuela (2006) report in their study on the employment of men and women conducted in 20 Latin American countries, of the incorporation of women in the service sector, as a result of a possible absorption by expulsion of the industry or by subcontracting of services. They mention that female employment and the outsourcing process is more pronounced among women, finding in the services sector increased work opportunities, specifically in trade, community, personal, and social services.

1.1.1. Women researchers and professional qualifications.

Qualification and professional level are linked to the type of work done. Maruani, (2000b) mentions how the qualification is also built, and above all, based on the conditions and status of employment that determine the nomenclature of qualifications. The separation is established between part-time jobs, stigmatized from the beginning as unskilled, and full-time jobs that guarantee a minimum of professionalism. In other circumstances, it may be the duration of the labor contract (defined or undefined time) which gives it the hierarchy of qualifications.

The value of human capital of women is related to their qualification or degree of professional preparation. Daune-Richard (2000) mentions the French case shown since the sixties, where the employment picture of women has changed. They much more than men have benefited from the explosion of school and university education of that period, showing activity profiles that have allowed them to develop their capital of experience without being translated into an equivalent improvement equivalent to equality of conditions of men. The relationship of training and employment is mediated through the qualification. With a higher level of training there is wider access to skilled jobs. In this characterization female labor mobility and services appears. Maruani (2000a) claimed the access of many women to research institutions, however in the analysis of women's work the accumulation of jobs for women was mentioned, those presented between family and professional spheres.

In the study conducted in Mexico by Becerril & Lopez (1997) it showed that the service sector was the one that showed the largest activity of female training. And in the configuration of the features of the profile of the Mexican working women they highlighted the criteria of their levels of education and training, related significantly.

On women working in Mexico as researchers, and according to data provided by the National System of Researchers of CONACYT (2010), in conformation it could be seen that one third was represented by women. Their biggest participation was in the areas of humanities and health sciences, and in the levels of national research candidate and, as the hierarchy advanced, their share decreased. The main problem that was valued was that to enter, women should have a job.

1.2. Social networks

The subject of interest in study arises from accounting for the social networks used by women in their work, specifically of female scientific researchers. For this, and after reviewing the landscape of women's work in the first section the concept of social networks is addressed and subsequently approximations related to personal

and family networks, informal sharing networks, networks of virtual organization are performed as well as networks of scientific and professional collaboration, trying to find specific assessment related to the case of women.

Beginning to investigate the concepts, the approach by Lozares (1996) on social networks is detailed, mentioning that these represent a well-defined set of actors - individuals, groups, organizations, communities, global societies, etc., linked to each other through a relationship or a set of social relationships. The author mentions Mitchell (1969) stating that the characteristics of these ties as a totality can be used to interpret social behavior of the people involved, but it seems rather a generic objective than a specific criteria of definition. The main identification of networks lies in valuing them as social units which are linked to each other through various relationships, where actors and their ties are analyzed, dyads, triads, subgroups and groups. It establishes the principle of cohesion determined by the causal force of their behavior, the intensity of communication links, which also marks the boundaries of the group. It includes the principle of equivalence, where the equivalent actors are those with patterns of relationship similar to those of their same position relative to other actors.

Within the perspective of social networks action and structure are joined, social interactions and institutional norms, micro and macro perspectives, this perspective according to Molina & Aguilar (2004) can be useful for social theory.

Moreover, from the information and communications technology, Lopez (2014) rescues the definition of social networks of Hernandez when mentioning them as "associations of persons linked by heterogeneous reasons and form a structure composed of nodes connected together by more than one type of relationship."

In this technological vision of networks and complemented by studies of networks based on social theory specific studies of scientific collaboration networks have recently deepened.

1.2.1. Personal networks, family and informal networks of exchange.

In the characterization of social networks of women, it is convenient to rescue the considerations of personal, family and informal networks. For Molina (2005) in personal networks can be seen institutionalized interactions (exchanges culturally dependent on gifts between relatives, support between adult sons and their parents, expressive relationships between friends, exchanges but also customer-supplier relationships, boss-subordinate, politician-elect) in the context of preexisting social structures (stratified by social class and / or status, occupational or residential group) that influence, condition or permit them. In the study of the immediate social life of people, there have been studies on the community, tradition of research that focuses on the location of the networks of social support, peer networks formed by relatives, friends and neighbors who provide socialization, information and general help.

In the scheme of study proposed by Molina (2005), size analysis of the personal network, the composition of the attributes of alters (ego relations), the types of relationships, the content of relationships, the structure of the personal network and the dynamics of personal networks are included. He also mentions the fundamental difference that can exist since memory is selective and there could be differences

between what people say and what people do. In its highlighted he obtained some considerations of networks of women in terms of size, perceiving that women tend to be underrepresented in the world of formal work and politics, so it is not surprising that on the average the social networks of the women are smaller. Because of this in size personal networks of women are on average smaller. In terms of composition, women would tend to have more women in their personal network, that is, with their peers, because the relationships tend to be homophilic, so that sex, social class, profession and other characteristics are considered relevant in a given context. In terms of content, networks with more women tend to contain more social support, mentioning that in the literature they usually distinguish between social support (routine and emergency), of socialization or confidences and instrumental relationships, rescuing again that gender is important. And in terms of structure realizes surely networks women tend to be denser for a variety of reasons (more frequency of contact, more social support, and smaller networks), the density of personal networks on average is 30%.

Moreover, the importance of family and kinship networks, are studied by Adler Lomnitz (1994), identifying internal and external relations and preferential relations in the context of equal opportunities. Placing them in contexts not only of people with precariousness of life, but also in the constitution and strategies of the groups of businessmen-only-. In his study of low-income people, he mentions that in the neighborhood, the incipient asymmetry occurs in internal relations to the network. And he realizes that kinship networks are often the most effective social network, the network of relatives, including the requirement of affiliation mentioning it as cronyism.

The informal sharing networks of Lomnitz (1990) are present as a social system gets more formalized, regulated and bureaucratically planned that, despite all this, does not meet the needs of society, and informal mechanisms are often created beyond the control of the system. These informal modes of exchange grow in the interstices of the formal system, they thrive in their inefficiencies and tend to perpetuate them when compensating for their shortcomings and generating fractions and pressure groups within the system. The reciprocity encourages the informal exchange of goods and services in a formal social system, arises as a response to the shortage, for example the exchange in the market according to the motives, goals, the degree of repression of the exchange or culturally defined binding rules between the parts.

1.2.2. Virtual organization networks.

Currently the information and communications technology are renovating all areas of human life, including of course women. The idea of the environment as the physical space that surrounds human beings has been modified by the access to the the virtual environment. Ortega & Gacitúa (2008) state that now the environment is built on the network, having the opportunity of being, to create and join communities of personal interest, to produce information and reedit it. Mediation and communication processes in the digital perspective have shaped identities and specific processes of learning, knowledge building, collaboration and community-building. The immediate connection that characterizes social networks have

facilitated the natural creation of a collective intelligence, with the inclusion of personal systems and diverse at the same time.

The consideration of social networks was not on purpose for educational use, Alvaréz (2014) starts from the theory of the six degrees of separation, made by Frigyes Karinthy, a social network can be understood as "a site in the web whose purpose is to allow users to interact, communicate, share content and create communities"

In science, change it is closely related to social networks, both those of general use as specific social networks of science. Conceived as a teen fashion, they are becoming a revolutionary tool for disseminating scientific results which are increasingly in electronic format. Lopez (2014) validates that it is essential to change the routines and adapt to technologies. Without losing the continuity in groups of people with common interests, working in a network within the same collaborative environment. The benefits that Lopez (2014) manifest are derived from the dissolution of spatial and institutional boundaries, since it is not necessary to be linked to a group to disseminate studies. Another benefit that comes from the increased research are the collaborations of scientists from different latitudes and belonging to different institutions, something tremendously beneficial for science, for the kind of collaborations that often results in brilliant studies.

With some shortages, there have been some studies of incorporation of women into these spaces so-called networks, which manifest approaches with certain features such as shown by Piñero (2014) on the text called Mothers in network, where he realizes the possibility for mothers to learn, express themselves and communicate on-line, allowing them to live stages with a great knowledge and empowerment about their own bodies and with the opportunity to make visible socially new discourses about motherhood, speaking in the first person about the personal experience and spreading it in large audiences.

Similarly, and based on the document of Hernando & Florian (2004) networks of knowledge of people are being improved, in a kind of self-investigation action, quite potential and strength that is transforming academic paradigms in the development of virtuality in self-training research, in virtual libraries, electronic conversations and Internet navigation, laboratory practice (live conversations -WhatsApp), allowing to develop the quality and relevance of university education, professional, and of the and researchers. The authors claim that the same internet mesh absorbs the shocks of educational traditionalism, the same as prudence and scientific knowledge that contributes the knowledge or ability to do things, in a virtual community of knowledge without distinction of gender.

1.2.3. Networks of scientific and professional collaboration.

Currently we live in a gradual growth of options of scientific networks. The document of López (2014) reports about formal networks called specific social networks of communication in science and for study in this paper they are considered informal networks, which are the scientific communities of exchange of information using participative technologies associated some to social networks of common use. In this tune the social networks of common use are more collaborative

than what was thought and the participation in these networks is growing. The author mentions that Mallaparti found that "in the last five years ResearchGate, Mendeley and Academia.edu have individually generated a user base of nearly two million people"

In the study by Henao (2012) for a researcher who uses the networks it can represent a qualitative leap in his research, being enriched by contributions from other researchers. The alternatives of change of scientific network arise when scientists assess the possibility of an increase in their intellectual and research production and according to the author's quote about Bourdieu, they would be increasing the production of cultural capital. The inclusion would come accompanied of individual and collective benefits, when belonging to a network of researchers and scientists would imply positive effects on research output by improving the development of scientific work or increasing the amount of research products obtained. Scientific collaboration networks would have a multiplicative effect and would also generate economies of scale, which constitute themselves in a positive incentive for researchers urging them to change the geographic network, because only scientists located in them can benefit from these economies that are those who generate intellectual circles where the author emphasizes the term *cluster* of knowledge exposed by Del Rio. Scientific collaboration networks and geographical networks can present a brain drain. Henao (2012) in his characterization also states that in studies of elite, people are more likely to have a connection, relationship or friendship if they have similarities or social capital, may represent an elite node in the local network, and a privileged position in the global network, becoming a bridge of entrance into the network of the developed country and his local network, apart from increasing their contacts. The relationships that are developing between the actors are perceived as sources of both material and non-material resources.

Filippo, Sanz, & Gomez (2007) value that homogeneity in particular and found that pattern of cooperation with national and international links, of geographic proximity, language, historical or socioeconomic links where it is clear that the relations are with centers of recognized standing and international quality; where joint publications are only one of the products of collaboration complemented to the study of results and products that can be both tangible and intangible. The stays and their own individual or collective publication practices as well as the dissemination often have specificities by study areas. For the authors the mobility can lead to the formation of human resources, creations of exchange networks, discussion forums and the creation of invisible, difficult to quantify schools, so they value the use not only of quantitative methodologies such as those using surveys, but also the incorporation of in-depth interviews to address unfamiliar issues and difficult to study.

For women in particular, the study of Arroyo, Bolaños, González, *et. al.* (2010) shows that in scientific collaboration the women are present in all networks of at least 10 authors and in some cases their presence is equated to that of men. However, the participation of women in all areas of knowledge is less than of men, in the Health Sciences, the ratio is lower than in other technical areas. Specifically on networks of authors, stand out the networks of more than 20 authors as most of them are men,

and when those are reduced, they even come to put them on a level between men and women or even to have a predominance of women among their members.

Trying to realize the idea of this document it has been perceived that the mentioned social networks of women will be making reference to the structures of formal and informal social exchange arising between one person or group of persons who are interrelated and according to López (2014) that even cover the exchange structures of social components online.

1.3. Analysis of the social networks

Different approaches were ascertained for performing the analysis of social networks, valued from various disciplines such as the anthropological, sociological and from communication sciences. Somehow some specific characteristics were obtained, but hardly dimensions of specific analyzes were obtained from the perspective of women, except in the case of personal networks of Molina (2005), mentioned in previous sections, where specificities subject to be examined from the female perspective such as the personal network size, their composition, types, content, structure and dynamics of personal established relationships. Five options are mentioned in a general way, were do not appear gender specific dimensions.

The proposal of Sanz (2003) values that social scientists use concepts and categories related to network analysis with several intentions. He validates that network analysis is a broad intellectual approach to identify the social structures emerging from the various forms of relationship, but also a specific set of methods and techniques. He tells the antiquity of these studies, mentioning that decades ago the dominant traditions in the Social Sciences have constructed the modes of scientific explanation. The social network analysis SNA, also known as structural analysis, has been developed as a tool for measurement and analysis of social structures that emerge from the relationships between various social actors (individuals, organizations, nations, etc.). The analysis starts from the study of individual behavior at the micro level and patterns of relationships (the network structure) at the macro level and the interactions between both levels, which may be bilateral or multilateral, emerging a structure called social network. The SNA has been established with the support of the matrix algebra and graphs, which can sometimes involve several sets, where matrix networks are used. The most direct way to study a social structure is to analyze the patterns of links that bind its members, looking for deep structures. The author mentions that the network is a relational construct, in which descriptions are based on the concepts of ties (ties) connecting actors (nodes) that can be individuals, groups, organizations or clusters of links -as well as people- in a social system. The network elements are the actors and the relationships established between them. The former are represented by points on the network or nodes and the second as lines . If the actors are described as nodes and relationships as lines between pairs of nodes, the concept of social network goes from being a metaphor to an analytic operational tool that uses the mathematical language of graph theory, matrices and relational algebra.

Single-mode networks appear where all the actors belong to a single set; mode-two are the affiliate networks a unique set of actors and events. The analysis of the overall

structure of the network and the level of integration, degree of integration or the cohesion that it expresses. The analysis of the centrality of the actors involved in it. – We want to know the position -possibilities of power of women-, degree, proximity or closeness and mediation. Both measures of a network, associated with the study of the centrality and cohesion, take into account, in essence: the number of linked organizations, the degree of exclusivity of the bonds and the position of the organizations in the set.

Intended to include in the study the particular case of women, it would place them in a centrality.

The proposal of Adler Lomnitz (1994) deals the depth analysis and shows in his results among other models, diagrams of social distance, pairing or wedge of favors with social distance.

In the studies of social networks proposed by Molina & Aguilar (2004) the specific relationships among a series of elements (individuals, groups, organizations, and even elements of speech) are studied. Distinguishing itself from traditional analyses that explain, for example, the behavior in terms of social class, the profession or ethnic group; the social network analysis adds to the attributes the relations between the elements, characterized by containing relational or reticular data in the analysis. A relational data represents an existing specific link between a pair of elements and starting from pairs of elements and the relationships established between them it is possible to build a network and can represent very different phenomena. And from the analysis of personal networks, Molina (2005) outlines several experiences, studies and methodologies of approximation formulating estimates, figures of hierarchy and network structure, among other tools.

Henao (2012) meanwhile shows that the links between different social actors can indicate first, transfers of both material and non-material resources, and second, the social or economic structure that gives meaning to relationships and enables to see them as relationships offer opportunities and restrict individual action.

2. OBJECTIVE

The objective that the document aims is to demonstrate how social networks are used by women workers to achieve the research work.

Trying to combine, on the one hand, women's personal experience based on the established daily arrangements with social networks, glimpsing the complexity of performing the tasks associated to the social status of women and on the other, to achieve performing work as a social researcher. Testimony performed and analyzed from the possibility of construction of the social memory, through the self-story.

Accounting for how to get to achieve the labor goal in the work of scientific research, as part of women's lives; in a situation where other women of similar generations and / or heterogeneous geographical areas can be recognized. At one point, somewhat akin to what was said by their own experiences as women researchers as stated by Villegas & Mendoza (2015), trying to show understanding and configuration of intergenerational processes of women scientists through narrative discourses and in this case from the inclusion of social networks.

3. METHODOLOGY

The purpose of the social sciences is understanding; It conceptualizes logic and limits of its own explanation are detailed, recognizing the complexity of reality rather than a generalization, recognized from the qualitative approach in individual cases (Della Porta and Keating, 2013). The story of this represents for Soto (2004) and Blanco (2011) the possibility of analyzing a passage in the social reality in force, the lived history and its writing in a historical record of what the person lives, explaining contexts, reading a society through a biography of courses of life in career paths. That to White (2011) is a scientific research, distinguishing fiction from the truth, placing greater emphasis on the personal side, the cultural field or the research process itself. Meanwhile Cruz, Reyes and Cornejo (2012) consider self-stories as research data, recognizing a situated knowledge, in which we participate for be part of the generation, representing the object and subject, active and dependent; assuming not only the epistemological exercise , but also ethical to give greater visibility to the issues of the own view of the research topic

With the above basis, the research carried out, derives from a methodology that on the one hand required a theoretical analysis of the work of women and social networks, and on the other hand an empirical analysis based on its own account. Using interpretive and qualitative action from personal experience as a researcher, regarding to the social networks used, valuing from the work context. The self-story technique is used to narrate how individually it is assumed the challenge of activating social networks of female collaboration to fulfill the role of scientific work? Later certain analyzes of social networks that were chosen from the approach that was made in previous paragraphs are made and from the self-story through production patterns and case reports, indicating the route of life predefined by the object of study that in this case represent the collaborative networks of women versus paid work, displayed in the work of the investigation. Cruz, Reyes and Cornejo (2012) propose to find out: what is the climate / tone of self-story?, What is the plot and / or intrigue that it articulates?, what facts, milestones and / or scenes emerge as relevant?, what are the characters in the plot / intrigue?, from which place / social position the self-story is narrated?, what are the clues about how the dialog appears?, but also as a device that would facilitate the production of data, that is , listening to the stories of others: what does the self-story contributes for empathy with the interviewee / a; for understanding the content of the stories of life; for positioning of the researcher on intergenerational dialogs; for the establishment of the research team?

4. RESULTS

Because of space constraints in this document I try to abstract the information that I appreciate being told in my social networks of collaboration. Recalling a first testimonial exercise that I made last year I realized that I described in a document that "I think it was gratifying to participate actively and daily in the integral formation of children, human resources and sharing with others. But definitely I not have the structure to cover and start from the same conditions of equality between

female and male researchers without daily family responsibilities, representing borders of women in their homes and in their professional development such as research" (Macías, 2015)

I start from this reflection to mention the social networks that are present in my daily routine investigative work. Naturally I structure my story identifying three types of networks that I see. The first ones are the networks of knowledge, where I try to identify research opportunities as knowledge, to know what I establish through these social networks. The second are professional collaboration networks, where I refer singularly to social networks in my everyday institutional environment. The latter are those who I call daily work networks, referring to supportive relationships that I establish to carry out family and domestic responsibilities. I always consider that I have established them formal and informal way and present or virtually.

4.1. Self-story of my networks.

a) Networks of knowledge

I remember that from when I started to do research work with a professional approach -a bit from my doctoral studies and later with obtaining my degree-, I realize that to coincide, discuss and share, I needed naturally to seek, to establish or to find colleagues interested in similar areas of study and approaches.

My first networks of learning, of parallel knowledge emerged from attending events of academic and group participation. Congresses, conferences, seminars, forums and lectures represented me opportunities to exchange knowledge, methodologies, and approaches of thematics and objects of common studies. From my doctoral training I self-generated the opportunity to participate in a forum of gender in the National Pedagogical University, registering my attendance through my first paper, wishing to discuss my ideas with my peers. Since then I started to present my positions and I locate regularly some peers, generally women, with whom I exchange questions and concerns to address problems of various kinds, that arise in a first talk and at least I locate the name or email. Most research events that I attend are in different universities to CUALTOS of the UdeG where I work. With the female researchers - and sometimes with postgraduate students- with which I have greater affinity and establish empathy, after a first physical or virtual approach, or with whom they recommend me, I try not to lose contact and establish means to continue with this monitoring, not only the e-mail but also the inclusion of relationship by means of communities such as *academia.edu*, *facebook* and *whatsapp*, characterized by a cautious support of long-range in time. Sometimes I communicate opening possibilities for conjectures presented to me as passing judgment about works or invitation to conferences in general or symposia that I coordinate or tracking information such as memories that someday we had in common and particularly, - with some in specific- with greater depths, follow-ups to research projects. A certain colleagues with whom I have worked or that I have only read and I like its subject, I do not know them physically; some I've overcome a single encounter via e-mail and I have established other electronic links (looking for their pictures, disclosures and notices in magazines, universities, associations, *google*, *facebook*, and recently in

scientific communities of the network and *whatsapp*. One and another project to which I invite them and others from which I receive their share. With whom I have greater -virtual and sometimes physical- everyday reciprocity are with two researchers at the center of the country. Although now I find myself in a special situation, as two of them are already retired. And, according to the projects the virtual reciprocity increases or decreases in certain periods with national and international researchers in contexts of collaborative research. These networks on women's studies have mostly overcome the barrier of formal linkage by expressed agreements. And I formally acquired memberships of associations to stay out of their progress and proposals, one by a recommendation and one because I have reviewed it.

b) Professional collaboration networks

Formally I belong to an academic body in my institution together with other colleagues, working on common projects and generally of collaborative initiative with the educational theme in common, only that I develop it secondarily. From personal affiliation, I have worked -not very commonly-- with researchers of my university on projects that bind us. And also for reasons of cohesion, reciprocity and good will I establish supportive relationships in administrative and academic procedures with few peers of my institution, from some I have received sporadically professional support that have made me to exceed my field of action or of which I have gotten support in issues of covering human needs. The communication that prevails is the one derived from daily physical contact, which is confirmed with electronic linkage similar to those used in networks of knowledge with short-term objectives.

c) Networks of daily work

The latter group ultimately comes from valuing gender perspective, the stereotypes and social roles attributed to women and the family and includes routines where friendships are added. A work that I perform and where I get support in a family and domestic dynamics. With my husband I prepare food for different times of the day and with the children some activities are delegated, with the characteristic of being more of instruction. The work of cleaning and care for a couple of hours of child is carried by a link to a trusted person that is rewarded. Like the work of transportation and feeding of children are made mostly by my husband, or occasionally by one of my sisters, my aunt or my father. Some times of care of a child, because of performing external or academic work in the evenings shared with me or sometimes with his father, usually present with the family, with one of my sisters, with the family of a brother of my father, the mother of my husband or sporadically with my parents. The efforts to obtain supplies I do in my home are sometimes supported by my parents. Contact with other relatives and friends presents on a daily basis but they are rarely requested for help, but lately I have asked the investigative support from friends, for issues under investigation and support of field work and with subjects. Except for a sister of my mother and the husband of my first sister to whom

I go for support to solve provisions. Lately I turn virtually to my second sister and her husband for medical support and health recommendations on par with my father. Accommodation in different towns near to where I live I is provided by my second sister and the sister of my mother. The options of geographical transfer of investigative type are supported on social networks of daily work with my father or husband or the social network of professional collaboration with academic partners.

4.2. Analysis

Following, a first analysis of social networks of my research experience through some matrices and figures are presented. The frequency of their uses are presented in Table 1 and in Figure 1 I show the structure providing greater scientific growth to me. In Table 2 I show the social networks I use to do my research work and in Figure 2 I show a paired diagram or support of favors related to my work of scientific research

Table 1: Frequency of use of social networks.

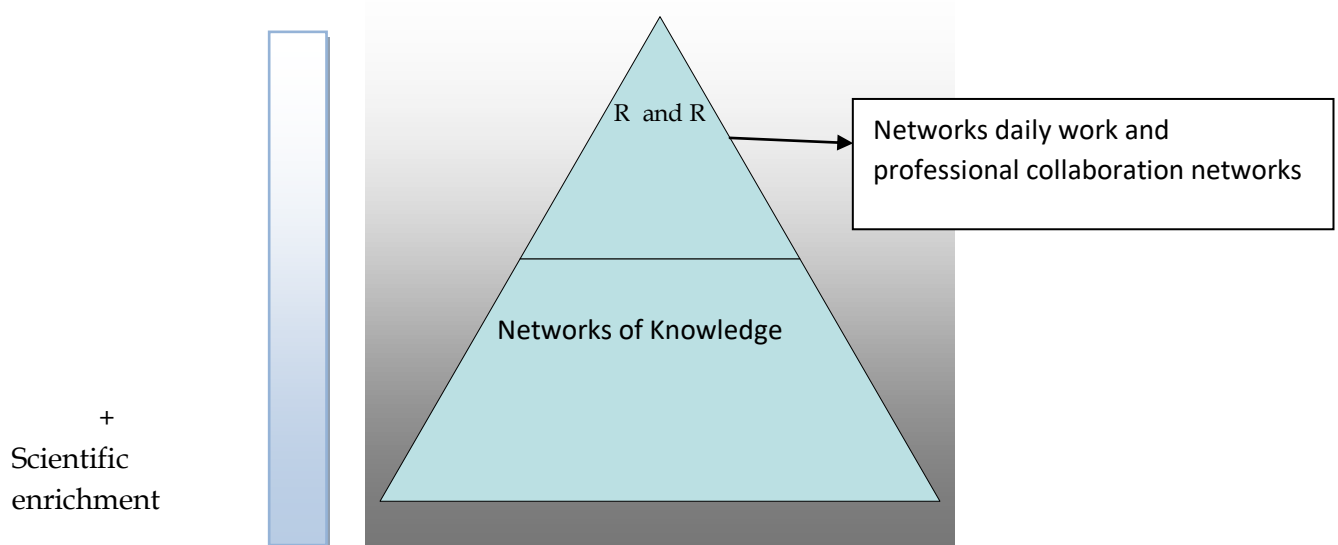
Types of social	Physical	Virtual	Informal	Formal
Networks know	2	5	5	2
Professional collaboration networks	3	3	2	2
Networks workaday	5	5	5	1

Utility scale assigned:

5. fully utilized, 4. They are used almost entirely, 3. sometimes used, 2. Almost not used and 1. Not used

Source: Analysis of self story

Figure 1: Diagram of pairing or matching of research favors with social distance or confidence.



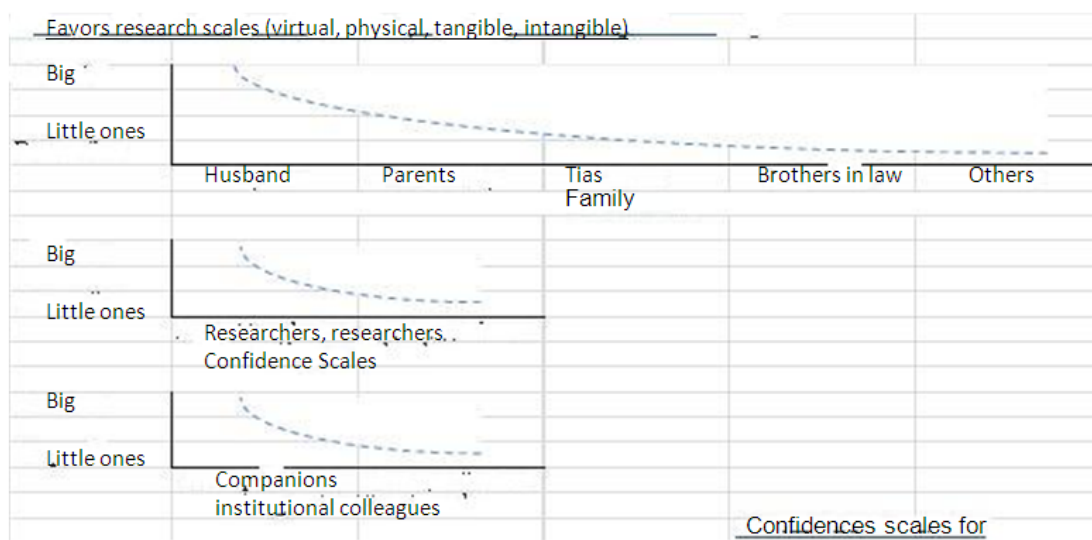
Source: Analysis of self-story, based on Adler-Lomnitz (1994)

Table 2: Social networks used for research work.

Activities necessary to carry out the research work	social networks that support me		
	Knowledge networks	Professional collaboration networks	Networks workaday
Increase my knowledge of my research	Yes	Yes	No
Obtaining tangible research products	Yes	Yes	Yes
Getting intangible products for research	Yes	Yes	Yes
Transfer to research and academic events	No	Yes	Yes
Recommendations research	Yes	Yes	Yes
Dictaminaciones jobs	Yes	No	No
Human resources training	Yes	No	No
Support for participation in research events	Yes	Yes	Yes
joint research collaboration	Yes	Yes	No
Family support to undertake research	No	No	Yes
Reconciliations of time to devote to academic production	No	No	Yes

Source: Analysis of self story

Figure 1: Diagram pareto or chock of research favors social distance or confidence.



Source: Analysis of self story, based on Adler-Lomnitz (1994)

5. DISCUSSION

The opportunity to show the personal career and not silence the voice and recognize why it excites me, causes I conflicts and feelings; leading me to become aware of the statement by Legrand quoted by Cruz, Reyes and Cornejo (2012) on *countertransference* of the female researcher. Now from a personal repositioning I

allowed myself to distance from the past, to recount and approach the present from this new reading.

The theoretical foundation addressed led to characterize the work of women currently contextualized through a feminist approach and comparison where social status is widely assumed. To make the approach of women researchers the increase of their presence in these areas of study and later the conceptions of social networks, personal networks, family and informal exchange were documented, which have recently appeared with the use of technologies and those of scientific and professional collaboration formed today. A way to have a more empirical evidence and taking the opportunity, it was shown with the personal narrative, the way in which social networks are used by women workers to achieve the research work.

The interpretive self-story shows from the perspective of women the situated knowledge in the female researcher. The challenge of mobilizing collaborative networks of labor and social context in order to continue on the chosen path of work, the research work, is displayed. The superiority of the tasks assigned to the womanhood remains a priority to the work of conducting research where arrangements with social networks play a key role to make possible and *laissez faire* the work of research.

The continuous frequency of networks of knowledge and networks of workaday established in a physical, virtual and informal way directly impact on the success of the research studies.

The greatest scientific enhancement of the female researcher that is determined in the pyramidal structure comes and is favored overwhelmingly by the networks she establishes on knowledge, parallel vision, the approach to research of great human and scientific quality at a national and international level has enabled her to scale and achieve the tasks valued by research indicators. And complementing what is evidenced by the matrix all necessary activities to do research work have an impact on these networks, except transfer to research events and two more derived from the family-domestic conciliation. Somehow the other two networks of professional collaboration and daily work -which involves family and friends- have some interference with lower weight. In a detailed analysis of the actors of social networks that are used to conduct research it reveals that while the level of confidence in them increases, the size of the requested favor regarding research increases.

The issues addressed in this study may be applicable to various areas of knowledge, and as seen in the results, there is concern about the participation of women in the scientific context and the role they have in order to achieve the goal and achieve parity between men and women in the higher occupational categories cited by Arroyo, Bolaños, Gonzalez, *et. al.* (2010). A future research would lead to a purely comparative approach with the experience of a self-story and analysis of social networks of male researchers, trying to visualize and make clear similarities and differences. Similarly, an assessment of greater detail with specific instruments of social network analysis with communicative, anthropological and sociological approaches that would require greater depth.

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