

Mechanical Engineers

Configuration of Biographical Identity, Relational and Sense of Belonging in Masculinized Space

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Abstract

This study aimed at analyzing the professional identity setting of women graduated in Mechanical Engineering at CEFET-MG, who have been in the job market for more than 3 (three) years as engineers. Thus, two central themes were approached: Identity and Relations of Gender. The research was descriptive, based on the qualitative approach in line with a case study. The subjects were 11 female engineers who work in the field of mechanics. The data were collected through forms of identification, and mainly through semi-structured interviews with scripts and were subjected to content analysis. The results presented achievements and advances in the life of the engineers interviewed, as well as gender inequalities still present in labor relations. The range of activities that a person with a degree in engineering and the market demand for such professionals was found to be the main point to help the female engineers to enter the career and companies. The difficulties are still focused on the fact that the field of mechanical engineering is male based. Women in this area suffer from gender prejudice, discrimination, acceptability and professional credibility. They have to overwork to demonstrate their technical abilities. Duties and tasks assigned to female engineers are more related to administrative activities than technical ones. Their professional challenge consists of making room to demonstrate their capacity and not to give up due to the prejudice that still surrounds them. The strength of being a female engineer seems to refer primarily to the satisfaction they have in working with productive processes. As for the anguish and frustrations, they are focused on personal and professional conflicts. In order to overcome obstacles involving the field of mechanics the interviewed women use strategies such as skills development, academic continuing studies and even by postponing maternity. In general, the job prospects are good for women and most feel satisfied with the profession. On the other hand, professional success is accepted as "recognition by the other." Categories for analysis of professional identity proposed by Dubar (2005) guided some of the data analysis. In short, it was found that the professional identity of the female engineers surveyed was marked by biographical elements such as family, school and profession. In the relationship process there is recognition, respect, autonomy and trust of subordinates, peers and superiors. The feeling of belonging manifests itself through a natural leaning towards the profession which contributes to the professional legitimacy of them. The interviewed engineers identified female characteristics which make the difference in the professional practice. The elements that engineers have used for the construction of their professional identity are positive self-image, self-awareness training, personal skills and capacities. In the social sphere, the

legitimacy of identity emerges through the status afforded by the profession and also because women are gaining ground, thus breaking with a male predominance involving mechanical engineering. In the workplace, identification with the organization has been a professional identity setting element, but it is not essential. The survey data also showed that most of the engineers surveyed are in process of professional identity construction, and the recognition by the other's has been an important element in the process.

Introduction

Since the end of the 40's in the twentieth century, women have joined more and more in the labor market, which in turn has been strongly affected by changes in production structures and in its relations, demanding new requirements for professional performance in terms of education and qualification (DIESSE, 2003). At the same time, in recent decades, women have increased their participation in courses. Many of them have been facing historical and cultural issues but they have entered into various fields of knowledge, even in areas seen as being culturally dominated professionally by men, such as engineering (Lombardi, 2004; 2005).

From 1990 on, there was a greater inflow of women in engineering schools as a result of the democratization of higher education and growth in this area. Both the creation of new specializations, like the old deployment of old areas allowed greater diversification in choices, especially for a woman who was more restricted to civil engineering and chemistry (Lombardi, 2006).

Engineering changes in the light of technological advances, especially in the IT area have contributed to minimize its scope and to increase the analytical capacity of the engineers, favoring the emergence of new areas of expertise. Some of these 'engineerings' have opened the doors for the insertion of women as professionals in the market. Others, such as mechanical engineering is still featured as a male professional field. Even so, several women, overcoming the barriers of prejudice and gender, are embracing this area as a profession (Lombardi, 2006; Pimentel, Leão and Rodrigues, 2006).

Although there have been various social transformations in recent times, the symbolic barriers still exist and it generates a gender division in professional choices (Bourdieu, 2010). Even though the transformations are considered conservative by Bourdieu (2010) there are women who manage to break the historic symbolism upon the choice of occupations. It is in this context the research seeks to investigate the construction of the professional identity of the engineers formed in the mechanics area working in the engineering market.

Based on this scenario, the article proposes to analyze the setting of the professional identity of the women formed in the course of mechanical engineering who have been for over 3 (three) years in the labor market and have been included in the career of engineer. The concept of identity is explored in this article not only as a construct from the viewpoint of subjectivity. It also regards the establishment of the social relations and the work identity, taking into account the personal, educational and professional path of the interviewee. The article starts with a theoretical review of the concept of professional identity allowing a greater understanding of the relationship between the self and the other regarding both aspects: organizational and professional. It also considers the concept of the stages of construction of the biographical and relational identity and the sense of belonging, proposed by Dubar (2005).

This article is structured into six sections from this introduction. The second section presents the theoretical framework on the professional identity and the categories proposed by Dubar (2005); the third section deals with methodological aspects used in the research and the fourth section brings the analysis of the data, followed by the conclusions and the final thoughts and it ends with the references.

Professional Identity

The term profession means activity or occupation which allows you to make ends meet (Ferreira, 2007). Larson (1989, p. 61) considers "the existence of a dynamic process regarding the professionalization, as this process varies according to the historical and cultural moment of the society. This justifies the various kinds of professionalism with extensive features".

Based on Dubar (2005), the profession is an activity chosen by the individual to be performed and it is part of the human existence. When you try to separate it from the context of the individual it will be an attempt of denial of the subject as he is in the pursuit of the productive activities that he performs. The construction of professional identity is related to the standards and values that are fundamental to the performance of a profession. It can also be understood as professional identity the construction of the "self-descriptions", confirmed by the social and cultural norms within its context (Winslade, Crocket, Monk and Drewery, 2000). However, it is important to consider the theory of Zembylas (2003) to describe the identity as the 'self' that never ends. This means that: the deeper is our knowledge about ourselves, we don't know ourselves enough, because we're always in formation.

The formation of the identity as well as its relevance is influenced by individuals that relate to other people (Robertson, 2011). Thus, paying attention to how the various working groups relate becomes critical to the understanding of identity formation. In the situation of relationship, each individual is identified by another and, when this ID is not accepted, others forms of acceptance linked to social categories available and accepted by the group are assumed. Given this, the professional identity is based on relational and social experience (Sainsaulieu and Kirschner, 2006). Therefore, the construction of professional identity occurs not only in relation to the various groups, it also occurs in conjunction with the power relations that end up generating feelings of belonging by the among the members. From the speech presented by Sainsaulieu (1985), the professional identity is linked to how the subject identifies himself with peers, bosses and other groups. Dubar (2005) stresses that professional identity either stems from the process of internalization or the function of the relational process from working relations. Thus, the work is an important element in the construction of the professional identity.

According to Beech, MacIntosh and McInnes (2008) identities in the field of the professions may suffer influences with the interest of the individual, the group, the characteristics of the profession and the hierarchy, among others. The authors point out that depending on how these identities are constructed and how professionals interact with each other, this can dramatically impact the results of the organization and the lives of the professionals who work and those who buy the products or services of that organization.

Robertson (2011) calls attention to the problem of the duality of the professional identity that emerges when one plays two different roles within an organization. When this happens, it is likely that the identity with the higher level of prominence or with the highest level of commitment will guide professional behavior.

There are social and historical facts that impact the social identity of a person. On the other hand, there is a tendency among the theorists to think of social identities in a subjective way. From the perspective of Beech, MacIntosh and McInnes (2008, p. 5) social identity can be regarded as "a product or a producer of interaction and interpretation, because the identification with social groups incorporates emotional dimensions and value as well as behavioral and cognitive aspects". Machado (2003) considers that the socialization of individuals linked to the world of work is closely connected with the relations of power experienced in the production process and which, through generation of collective norms of behavior, contribute to the construction of professional identity.

It is important to notice that the professional identity is always confronted by technological, organizational and management transformations. As a result of this confrontation, it can be adjusted or turned (Dubar, 2005). Given this scenario, Vasconcelos and Vasconcelos (2002) point out that the professional recognition provided by the labor relations and the position that the person takes inside the organization contribute to the formation of identity. When it is recognized that the labor activity contributes to the formation of the social identity of the individual, it is also implied the recognition of the professional identity element resulting from the link of the subject with the organization. Therefore, the organization is a place of relevance for the secondary socialization having an important role in setting the professional identity.

The means of socialization and learning that can be found in the construction of professional identity requires physical and psychic effort. According to Berger and Luckman (1999), the professional identity develops from the primary and secondary socialization. In primary socialization, the subject is inserted into society and becomes part of it. And, in the secondary socialization, this same subject incorporates institutional values.

The professional identity as historical, social and political phenomenon is related to the professional image. It is on the image the identity settles (Silva, Padilha and Borenstein, 2002). In the constitution of the self-image in a social level, the individual ends up identifying itself through the feeling of belonging within the groups. Such process is conducted "by the roles that the person lives and the various representations to which the subject lies, including the professional representation" (Coutinho, Krawulski and Soares, 2007, p. 32).

The professional identity is treated, in this study, as a process of building individuals as professionals and goes beyond identity at work, because it involves other instances. It goes beyond the context of work - the academic and school experience, giving priority to learning and professional experiences. These processes contribute to greater awareness of the self as a professional. And, according to Brito (2004), professional qualification and work are relevant elements in the construction of the identity of the individuals.

The analysis of professional identity in terms of categories proposed by Dubar (2005): biographical and relational identity and feeling of belonging, demonstrates the value of identification mechanisms and how these are suitable for the study of professional identity.

Relational and biographic Identity and the sense of belonging

In the biographical identification process, the construction of identity comes through the time and arises from social and professional relations related to the categories such as family, school, employment among others. When it comes to school, the choice of educational or professional field is essential to the construction of identity

and, when the individual relates to the labor market, this ID can take different shapes and meanings (Dubar, 2005). Marinho (2009, p. 101) States that the individual identity process, taking into account the biographical elements, refers to the various ways in which the subject accounts for their paths, "justify its 'position' at a given moment and, sometimes, anticipate their possible future". Thus, the author refers to biographical identity, relating it to the expression such as - individual, learned, its position, defining itself, showing clearly that there are characteristics in these expressions relating them to the individuality and the subjectivity of the individual; biographical terminology, i.e. those personal situations experienced throughout the existence of the person are the main elements for the construction of the biographical identity.

For better understanding of biographical identity, Marinho (2009) reports that there is a duality in constant struggle, between the self as the essentialist vision, in contrast to that hidden self, giving the complex dimension of subjective relations for which the guy evens out. Therefore, the individual, to experience their social relationships, seeks to elaborate a mechanism capable of tying together their unique identities trying to unifying its existences, understand itself as single individual who has a personalized experience.

The identification process is related to the collective representations experienced by the subject when it relates to the various occupational groups at work (peers, bosses, subordinates) and "[...] the recognition of identities is indistinguishable from the spaces of knowledge and competencies associated with the identities" (Dubar, 2005, p. 155). In this perspective, according to the author, in the relational identity, it is necessary the recognition of the other to legitimate the individual. For Maldonato (2005, p. 480), the relational identity "only happens in the encounter with the other: The other who looks, recounts and spell out my identity, returning it to me as a life story told". In this way, the proposed recognition by Dubar (2005) is to have my identity understood and accepted by the other, and, from this point on, the individual shall be accepted by the other.

In this direction, Maldonato (2005) refers to the construction process of relational identity, through the individual's interactions with each other. For the author, the relationships are tense in the process, there is a struggle of the individual in asserting before the other, in a plurality of antagonistic feelings, acceptance and rejection of the self and other -proliferation of voices- in the construction of the plural identities itself. Maldonato (2005, p. 488) asserts that identity is never a "final truth: there is always an unsolved tension between the desire to know who I am and the answers that can be given to me: the answers may be very different from those that I can give about myself". There is a conflict established between the individual and their personal convictions, in contrast with what the others think about the individual and it often comes into disagreement with his own truth, if it exists. To the author, there is no possibility of a conclusion, but "keep the question open 'who are you?', who is 'the other' in his humanity and uniqueness. This gesture makes possible a new ethical horizon in which the individual is put before the uniqueness of each other" (Maldonado, 2005, p. 488).

The feeling of belonging, according to Dubar (2005, p. 137), "expresses what kind of man or woman you want to be", that is, the "identity for itself"- it is the form used by the subject to identify himself, that is, the internalization of the identity by the individual. According to the author, is in the midst of the social trajectories that the subject builds the identity for itself, so the sense of belonging should be analyzed within these trajectories. Kramer and Faria (2007, p. 89) claim that the sense of belonging comes from the identification process, as the integration of the subject with the group occurs more intensively, the ID that follows this relationship turns into the feeling of

belonging. "Soon, the sense of belonging is the integration and identification with the organization and with the people."

In the core of the feeling of belonging there is the involvement of different ways of being and expressing in the world and of building the self according to the proportion of the development capacity in order to multiply, expand and deepen personal sensitivities. "We need the inherent awareness of the understanding of the formation of the subject in order to know the characteristics of its subjectivity exercised" (Pereira, 2007, p. 49). The complexity, according to the author, is present in the essence of the human being regarding their self-knowledge. In this context, Pereira (2007) refers to the process of an individual's interaction with the world, their social relations, his way of seeing and existing in life, according to him and the others, which can be synthesized in the expression of understanding of the formation of the subject.

Methodology

In this research, we opted for qualitative analysis. Semi-structured interviews were conducted with 11 women engineers of the mechanical engineering course at CEFET-MG, graduated between the period from 1997 to 2007, and have been in the engineering career for more than three years. The criteria that was used in the subject selection of the research was the accessibility and the indication process. The interviewees were coded from E1 to E11 to preserve the identity of the subject. The analysis of the collected data went through the following stages of treatment (Melo, 2003): (a) preparation: the interviews were transcribed according to the script of the questions, by grouping all the responses in each category for each question handled; (b) quantitative tab: identifying components of the answers of the interviewees and grouping according to the theme of the question. This technique of data analysis follows the principles of content analysis, proposed by Bardin (2006) and allows better visualization of the opinions and the contents of messages from the respondents after their systematization in the form of tables, considering the frequency of the topics pointed out by respondents. Reaffirming the concept of Berelson (1952), Bardin (2006) places the content analysis as a systematic, objective and quantitative description of the content in the report or document obtained by the researcher. Thus, the tables constructed in this study reflect the various constituent elements of the speech of the interviewees. Each response can contain different elements on the issue addressed, leading to obtaining percentages that reflect the variability of the information contained in the speech of the researched; (c) qualitative/thematic tab: consists in the definition of topics, according to the purpose of the study, structured in a spreadsheet that allowed the grouping of the most significant extracts from the interviews transcribed, giving prominence to the speech or the dimension of the interviewees. This methodology works with the knowledge and the experience of the subject permitting the researchers a deeper understanding of the subject in study.

Data analysis

The profile of women engineers interviewed is at the age group between 25 and 39 years old; average of eight years of professional experience: from 1 to 5 years, four respondents (36,4%), from 6 to 10 years, four (36,4%), from 11 to 14 years, three (27,2%). In relation to marital status, six (54,5%) are single and five (45,5%) married. Among those who had children, the age range from one to five years. It should be noted

that none of the respondents has position of leadership, but it was noted that 54,5% are specialized in the area of management.

The result analysis of the research was based on 04 (four) variables. 1 biographical identity); 2) relational identity; 3) the feelings of belonging; 4) the elements used as a reference to express identity in professional performance.

Regarding the biographical identity

To analyze the reasons that led the engineers to opt for mechanical engineering course, there was, above all, the influence of the family, in the person of the father (45%), but also there was the influence of other family members.

My father was very influential on this choice (E1). I graduated in industrial mechanical engineering, influenced by my father. And as I lived with him, he use to take me to his work and showed me the work and activities and everything else, I ended up getting interested about this subject and joining this engineering course (E4).

The reasons given by the respondents for attending engineering are related to their biographical identity and, consequently their life story. The influence of the family is a positive reinforcement for the professional choice. The statements related to Dubar (2005) describe the identity lived and experienced by the child during childhood with their families, which contributes heavily to the biographical subject's identification process. According to the author the internalization of functions by the child takes place along his socialization, "first in the family, then in school and ultimately in the labor market" (Dubar, 2005, p. 16). And, in the midst of this relationship, the dynamics of identifying the individual throughout its history with the help of others occur and then there is its solidification (Dubar, 2005).

In terms of academic choices, the schools of engineers are linked to the math area affinity (73%). Thus, one can see that some interviewees have affective and cognitive relationship with the profession. This fact, contributes to greater identification and, consequently, greater consolidation of professional identity.

From an early age, since I was a kid, I like a lot of the exact area, mathematics, physics, chemistry ... Has always been an area that I had an easier time (E1). I've always had an affinity, inclination, in the area of matht, and then, when it was time to do the entrance exams, I went to do a study of professions and I identified more with the mechanical engineering (E11).

The issue of affinity is an important element in biographical identity and consequently, in the configuration of the identity of the subject. Second Dubar (2005, p. 147), the contact with a specialized discipline or technique is a significant element in the formation of the identity of the individual, "the elementary school is thus a defining moment for the first construction of social identity".

Regarding the experiences lived in the academic environment, it was noted that there was no perception of discrimination in relation to colleagues, but it was found that there was some sort of special treatment, mainly from the professors.

[...] at the beginning there is discrimination, when they don't know you they will label you, so it's more from the teachers than from friends (E7).

According to Dubar (2005), it is in the midst of the categorizations of others - can be the teachers or the colleagues - that the individual lives the experience of his first identity and, in the course of life the identity strategies are built.

Another element pointed out by some engineers was the fact they have done technical course in high school (64%), reaffirming the importance of positive reinforcement by the school in a professional setting.

It was asked the interviewees the question - who are you? Please, introduce yourself, trying to get information regarding the manifestation of identity of engineers researched through his self-introduction. There were a variety of responses, mixing personal and professional peculiarities. It was highlighted that the main aspects indicated refer to the name (100%), school background (73%), profession (64%) and career (45%). According to Veloso (2007), the verbalization of the profession is directly associated to the materiality of the work, therefore, it is a internalization and cognitive/affective acceptance of holding a profession.

My name is ..., I am a mechanical engineer, I'm ... years, have worked with engineering since I graduated (E02). I am ..., mechanical engineer, formed by CEFET (E08). I am ..., mechanical engineer (E10).

Veloso (2007, p. 77) considers that "... profession labeling constitutes an important sphere of inclusion or exclusion, in the symbolic and identification plan of the subjects - and the work they perform - in their respective professional groups".

By analyzing biographical questions of engineers, there is a consistency of behaviors and attitudes. So there is linearity in the career since the beginning. Most have seen at apprentice an opportunity to learn, get qualification, and even the opportunity to be employed as engineers. According to Dubar (2005), the on-the-spot learning contributes to the strengthening of biographical identity as a result of the acquisition of practical knowledge. Most respondents gave prominence to the role of the trainee as a means of valuing experience, in the field of professional practice.

I was hired as a junior engineer and along my 10 years in this company, I was promoted to the position of engineer and senior engineer (E4). Then, I learned everything in those two years as an intern and just as I graduated, I was hired and I continued doing and learning other things (E5).

It was observed that 36% of the respondents, after the intership, began their career as an engineer in the companies in which they are currently. Thus, the construction of professional identity of these engineers is founded during the period of the internship and continues to be solidified through the recognition of the professional practices within the organization.

The majority of respondents (91%) like the service they perform, thus reaffirming the identification with the profession (Dubar, 2005).

I like very much what I do(E3). [...] What I do I like (E4). [...] I work with what I like (E6).

The biographical identity can be observed on the basis of the life experiences of the interviewees. According to Dubar (2005), there is always a reinforcement or denial of an individual's social and professional identity for experiences in his career. In the case of the engineers interviewed, the fact that they like the job they perform, the enhancement of professional experience, starting from the internship to the entrance in the careers, are elements which enhance the professional identity of the same configuration, "it is in the confrontation with the labor market, of course, that lies the most important implication identity of the individuals" (Dubar, 2005, p. 148).

Regarding the relational identity

The professional identity is based on the distinct collective representations, such as the identification with the working group. When the engineers were questioned as to their relationship with the peers, the good relationship maintained with colleagues was referenced in 82% of the responses indicating a positive reinforcement for the professional identity of the engineers interviewed. Another point that deserves to be mentioned is that some respondents see a protective relationship with the peers but according to them, it is not a matter of discrimination, it is a way the men find to take care of the women engineers.

Very quiet! There is even a protective relationship. Not to prevent the woman to do something, on the contrary, because I myself have I managed a work. ... But do not want something bad to happen, that someone make any harm to the people (E3).

According to 73% of the answers of the interviewees, the superior relationship is good and quiet. Most of the interviewees do not have subordinates. Among those have subordinates, 27% of the answers indicate a good relationship of equality, trust and respect. It is noticed that, regarding the engineers relationship with the subordinates, there is a strengthening of their role as engineers.

According to Veloso (2007), the workers seek to preserve their autonomy in internal work environment. This fact indicates a strategy of labor performance recognition, in that sense, the discourse around the identity is essential. Thus, in the context of engineers interviewed, 73% claimed to have autonomy in the exercise of engineering. A minority group of respondents (26%) has professional autonomy restricted.

Still concerning the autonomy, it is observed that there is autonomy in the responses of 55% engineers, having autonomy means having freedom at work. For 18%, the sense of autonomy is expressed through the means of the subjective aspects of your daily life, i.e. when they are listened to and or participate in meetings, giving suggestions and opinions.

[...] today I have autonomy to make the way I think is right (E6).
My autonomy is great. I can give suggestions, I can propose, I can talk ...it is great (E2).

Viewing the importance of the autonomy in the work environment and its influence on the construction of identity, it was found that many of the engineers interviewed have already managed to prove the individual capacity and thus conquered professional credibility. On the other hand, there are those who have not yet conquered this autonomy.

The process of competence recognition is the result of professional relationships. That is why it is important to reinforce the identification with the profession before the eye of the others. The respondents emphasized the importance of the relationship with the other, especially concerning the need for recognition. The recognition is a product of positive interactions. According to Dubar (2005), when the individual internalizes the values of the group to which he relates, these values will reflect on the conduct. Considering that the recognition of relationships is an important element for the understanding of identity and pondering that it occurs in the midst of the relational experience, which can be both inside and outside the company. It is noticed that some of the engineers interviewed feel recognized for the work they perform. The personal and professional recognition in practice of engineering indicates overcoming by the engineers and once again shows how they are conquering their space, showing their

work. The recognition legitimizes the profession and contributes to the construction of professional identity of the mechanical engineers.

I think the woman is earning her space, and is showing that it can also do the same things that a man manages to do (E5).
Regarding the peers, I can work as a team, I am respected as an engineer (E6).

According to Veloso (2007), certain organizational contexts are perceived by the subject amid the internal interaction dynamics, especially among co-workers. When considering how the various functional groups of the company see the woman engineer, some engineers reported a situation of distrust at the beginning, but as time goes by, people start to rely more on the work, as the woman engineer conquer her space.

There is prejudice at first glance. It has already happened you come up to the person and the person... hum! hum!, but you get to work and show your work, if it disarms (E6). At the beginning is not a bit hard. But, when we demonstrate our qualification, they surrender and accept our workforce (E7).

The relational identity can also be seen through the angle of the women who have already been through the internship, which favors more the identification with engineering. That is because direct contact with the field of study and with people reinforces the identity and the emotional bond with the profession. According to Dubar (2005), the relational process is related to being recognized in a given time and within a defined space in order to be legitimated.

On the other hand, it is observed that the woman engineer, under the feminine aspect, has provided a new space in terms of interpersonal relationships in the workplace. The engineers interviewed reported feminine qualities that constitute a competitive advantage vis-à-vis men, 55% of the qualities is concerned to the sensitivity and women's organization and the ability to relate to people (45%) as important characteristics that enable greater contribution of engineers to the organizations.

Some features such as organization, discipline, good sense, good relationship, good communication, that were highlighted as facilitator for the professional performance of engineers, were also observed by other researchers in relation to women's labor (Cappelle, Melo and Brito, 2002; Melo, 2003; Lombardi, 2004, 2005, 2006; Brito, 2004; Mageste, 2008).

Regarding the sense of belonging

It was noticed traces related to the identification of the engineers with the tasks they perform within the organizational aspect. For Veloso (2007, p. 131), the manifestation of the identity with the profession is related to the materiality of the work and the profession itself. "The worker's connection to the product and, therefore, the materiality of the work is associated with the identification with the profession". Regarding the identification with the organization, some engineers said they identify with their work, as follows:

I love my profession, I find it very challenging and also it is also very diversified (E10). ... I like what I do and I'm happy to do that. So, I think that is a good thing. I think I chose the right profession (E11).

Through testimonials, you can see a sense of belonging towards the profession. It is possible to perceive traces of the identification that indicate greater adhesion of the engineers interviewed with the work, reinforced by the pleasure due to the profession choice. Thus, it was possible to notice feelings of belonging related to the personal

appreciation that the respondents feel about themselves and it turns out that feelings of belonging are a facilitator in the exercise of the profession of engineering.

Being a woman engineer is a pleasure. You face barriers, obstacles...it is a personal satisfaction (E9).

It was also considered the self-affirmation element. In 55% of the answers the interviewees it is cited the achievement and the personal satisfaction of being an engineer. These elements were classified as self-affirmation, because it shows that the engineers have a good self-esteem and self-confidence due to the profession choice. They are important elements of the sense of belonging and the solidification of the professional identity.

I'm a Technical Engineer. I feel very accomplished (E7). It is the profession I chose and that I like it. I think I've turned into an engineer myself, body and soul. My way of being, since very young, I have always been like this. This is for me the profession that I like. What do I do like. Give me the financial return I would like to [...] when I imagined my future [...] I have now what I imagined (E6).

The feeling of belonging demonstrates the commitment of engineers with the profession and, consequently, with the organization. It also shows the advances and the overcoming of the gender stereotypes that say that mechanical engineering is not an area for women.

Most of them respect and admire you. I believe that is improving. Men have observed more women in the workplace (E2). In the case of woman engineer, I like [...] I have the greatest pleasure, when someone asks me what is my qualification. I am an engineer. Wooh! Are you an engineer? [...] I am making a difference, that's why I think it is good (E4).

Recognition at work contributes to strengthening the sense of belonging. Dubar (2005, p. 155) States that "[...] the recognition of identities is indistinguishable from the legitimate spaces of knowledge and competencies associated with identities".

Thus, the conquest of space is related to the question of professional respect and recognition. It occurs either through a placement in the presence of other people or in function of the recognition that the engineers have in the workplace. It is noted that that these elements denote a self-awareness of the individual skills.

I think one important thing is to always be aware of your position, to know how to impose respect and show that you are as capable as the man (E4).

It was verified that the engineers use skills and competencies as a way of expressing identity. The skills and the abilities are important elements for professional development, because it is a way to offer a differential of employability. According to the engineers interviewed, being detail oriented, organized and efficient are skills that the woman engineer have and that makes a difference (36%). Concerning the competence, the creativity, the detailing and the dynamism that the woman has have been highlighted. For the interviewees, it is through the demonstration of the individual capacity that you overcome the prejudice that exists in the area.

Yet, according to Dubar (2005, p. 209), the linking of the individual communities, professional associations, councils, trade unions, professional bodies contribute to the structuring of the professional identity "corporate type, deeply linked to the maintenance and reproduction of official standards to perform the function". Of the engineers interviewed, 82% were affiliated to CREA, 73% but do not participate in

the events of the council. Regarding the participation in other entities or association representing the profession, only 36% are affiliated to the engineers union. According to Dubar (2005), The non- effective participation of engineers in the institutions and in the class events for collective expression limits the claims of identity

In short, the sense of belonging expressed by engineers indicates an identity construction in prevailing positive feelings about themselves. Thus, values feelings demonstrate self-confidence in the workspace, which represents a breakthrough for women who are in the area of mechanical engineering.

Elements used as reference to express identity in professional performance

In the personal aspect, the engineers use the self-image to express their identity. The fact that women have good sense and sensibility, know how to negotiate and have a wider view was found in 82% of the answers of the interviewees. In addition, according to the interviewees, the woman knows how to relate to people (55%), is practical, objective, diplomatic, independent and determined (27%). The massive entry of women into the labor market and their increasing access, although it is marked by inequality, make it harder to set the male identity in that workspace. Therefore, the data indicate that women, with their characteristics, have been established within the engineering profession and their qualities have been important in the professional environment.

The main contribution that the woman has given to business environment is this ability to perceive the emotional on the people. The ability to do a thousand things at the same time, changing the focus a thousand times, if needed, to perform a job. Negotiating politely and kindly in some situations (E2).

Another aspect that indicates a positive self-image according to the engineers interviewed opinions is the fact the women continue maintaining her femininity, and do not let them lose the female identity because they are working in engineering, as pointed out in 36% of the answers. But according to other interviewed engineers, assuming this femininity often does not go along with what the organizations expect from a female engineer, because still there is the intrinsic idea that the woman, in the area of engineering, needs to have a more masculine behavior. When taking this kind of posture, according to those interviewed, they are being untrue. There will be a self-denial image of the woman.

Some women, especially after the attendance of the engineer course, begin to adopt a male behavior, the outfit, vulgarity and some profanities to keep up with the class [...]. This can generate an image that is not true, for women (E4).

According to another group of engineers interviewed, the woman does not have to have a male image, but need to have a professional attitude that resembles the male characteristics so that the woman can be recognized as engineer.

There are a lot of women who, although they are engineers, do not have a professional attitude. Not that you have to behave as a man, [...] but I have to take a more serious and firm posture. You can't cry, at least in the area that I work which is the area of the worksite. [...] It's not that you have to stop being feminine. [...] If it is to have a meeting with the directors then she can embellish, have a lipstick on, arranges her hair, puts a new outfit [...] (E/6).

The identity, according to Bauman (2005), is dynamic and, therefore, is related to professional activities. And the biographical elements and the relationship of belonging contribute and allow the setting of professional identity.

In the personal dimension, it was also detected the academic choices as an element to express the identity of the engineers. According to Dubar (2005), the professional qualification has great influence on the social and professional identity, which can be seen also in the lives of the engineers.

[...] Engineering opens the paths, opens the mind. It provides a personal and professional growth. There, you can bring the engineering knowledge to your life and apply. But you do not apply calculation. It is the logical reasoning that you apply (E8).

Social recognition is an element which strengthens the identity of the woman engineer. This element manifests itself mainly through status, according to the evidence, being an engineer enables greater power and differentiation by the society.

We have a status either you want it or not (E8). Oh, you're an engineer, I am an engineer [...] these differences, on the other hand, still have a taste for more, because, besides being a cool and enjoyable profession, you can have a another victory - breaking these barriers (E10).

The status gives pleasure and it is a positive feeling experienced by the engineers, it contributes to their professional self-esteem. This fact reinforces a positive professional identity (Asforth and Mael, 1996).

In the organization aspect, the identification with the organization has been cited as a contributing factor with the professional setting. It is noticed by the interviewees, three levels of positioning vis-à-vis business organizations where they work, which are: strong ties, weak ties and median ties. According to Veloso (2007, p. 74) "either positively or negatively, the ties to the company are significant and are part of the history" that is common to the trajectory of the subjects.

a) Strong ties of identification with the company in which they perform their activities

Considering that I have been in the company for 10 years, there is very strong bond, there is commitment and involvement with the people with whom I work with [...] almost a second home to us. [...] I feel like it's my second home (E4).

b) Median ties, they represent a relationship of respect and friendship.

[...] it is a very good bond, the prospect is very good. Let's say it's like we are engaged, not married .. A marriage is when the company believes you are essential and that you are part of the staff, part of the company. Today, I'm not part yet, but already had feedback that I can get to be a part of the company. Part of the team, as they say (E6).

c) Weaker Ties. When the bonds are weak, it is a relationship with intrinsic characteristic, it means "absent at work performed and subject to respect for the hierarchical line" (Veloso, 2007, p. 69). In another perspective, there was a report with no identification with the organization, which indicates that the company has not been an element of the identity reference.

[...] would not want to have any link, because do not want me to look like the company it. gave me and has given me great experience and great opportunities. [...] But it is much small, it's time to expand. Being small ... gives a retrograde idea about the

business, kind of slavery and feudal, wouldn't want to have any ties. So, my tie is simply professional [...] (E1)

The analysis developed allowed to trace forms and manifestations of the professional identity of women engineers. On the evidence presented, it is noticed that the engineers share an identity marked more by personal and professional conceptions. Such conceptions have reflected positively on the self-esteem of the engineers. The female characteristics, qualities and abilities seem to allow the creation of another space for the woman engineers within the organizations.

Final considerations

The identity has been appropriated through the analysis of traces related to biographical and relational identity and the sense of belonging (Dubar, 2005). When it comes to biographical identity of the engineers, most interviewees justified their professional choices in terms of taste and natural aptitude for the exact science or in function of subjects in the school linked to the exact science. Therefore, it is noticed the strength of the knowledge that was acquired and rooted during the academic trajectory in order to legitimize the professional choices. In addition to the academic trajectory, marked by school affinities, there was also the influence of the family relationships (primarily the father, and siblings) when choosing the course. Another assumption adopted is related to the importance that the work, employment, has on the construction of professional identity. The work is an important element in the biographical identity processes, along with the academic qualification. Thus, it is observed positive feelings in the testimonies of the engineers over the importance of qualification and the performance of the profession, which is translated into customer satisfaction and professional achievement, mainly to show that they are also able to be good professionals in the field of the mechanic engineer which is considered a masculine space.

The workplace relations show, under the perception of the interviewee, to run smoothly with subordinates, peers and superiors, but the need for recognition was pointed out as an important element for professional legitimacy of the engineers, therefore, for their identity consolidation. From the perspective of relational identity, elements such as respect, trust, talking on equal terms, autonomy and recognition were found. They show recognition and they also reinforce the professional identity. In the case of the engineers interviewed, their skills and female characteristics such as sensitivity, tolerance, organization, rapport and a good administration constitute a differential in the professional practice, because they indicate a new path for the emancipation from the male pattern that involves the profession.

Regarding the sense of belonging, which relates to the identity incorporated by the subject, it is noted the identification of the interviewees with the profession, and it is expressed by the pleasure they have when performing the tasks. This constitutes a positive reinforcement in the construction of the professional identity of the engineers studied in this research. In addition, it was possible to identify greater personal appreciation of the respondents through the features present in the female personality that make easier the performance of the work. The satisfaction to perform a task and the pleasure due to the chosen profession promote a better work environment for the engineers and, at the same time, enable greater commitment among the professionals and the professional space conquest. The feelings of belonging detected are important for professional legitimacy, and therefore they are the women engineer building elements.

The manifestation of identity is present in various dimensions of the life of the individuals. It has been built along the process of socialization of the subject and, in the midst of his career. There is the interiorization of his image. The image he has about himself and the image of what the others think and expect from him. When it comes to professional identity, it has been rooted in the individual trajectories, in the formation and in the labor relations therefore, it has a dynamic character. In this research, the elements that have contributed to setting the identity of women engineers in the mechanical area were highlighted. Such elements are centered within the personal level, through a positive self-image. Self-affirmation elements that denote professional self-awareness, personal skills and domain of the expertise are present. In the social level, the status that involves professional engineer contributes to legitimate the identity, besides the fact that the woman is winning space in an area of male dominance such as the mechanical engineering. In the organizational level, it is noted on some respondents the identification with the organization for which they work. On the other hand, it was found that this element is not essential for the construction of the professional identity since some testimonials of the interviewees indicate that the individual may have a professional identity, without having it associated with an organizational identification.

Finally this research allows two reflections: a) Studies as Cech (2005) and Barnard, Powell, Bagilhole and Dainty (2011) address the limitations suffered by women in the areas of science, technology and mathematics (STEM) or science, engineering and technology (SET). The results show that the difficulties of permanence of women in professions in these areas are related to the disagreement within the family with their careers and low self-evaluation of their professional and intellectual abilities. It is also shown that these occupations have images, languages and standards that reinforce that these areas are unsuitable for women, in addition to the networking developed by men based on activities and interests traditionally masculine, among others. The group studied contradicts the results of these studies. The group of mechanical engineers studied can be in different situation due to the Brazilian economic development which demands professionals from engineering. In addition to being selected the practice in the profession of engineers for more of 03 (three) years in the market is required. It can also be showing a different situation in the Brazilian reality. b) the theme on the professional identity is huge. In this work, we tried to show analyses of manifestations of the professional identity that were spoken by the mechanical engineers studied. It is considered appropriate to conduct new investigations on the professional identity with women in the areas of engineering to confirm or not the results obtained in this study and to complement the theoretical approach used in this study. A suggestion for further studies would be to examine the identity of women engineers on the performance of the management functions, mainly because the labor market has expanded the possibilities for the woman engineer perform in the area of management, too.

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