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## **Inclusion of Women in Science. Long-term Strategies for Alone or With Partners' Women**

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# **Inclusion of Women in Science. Long-term Strategies for Alone or with Partners' Women**

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## **Abstract**

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Throughout history the division of gender roles has been a serious impediment for women working in science. Although they never desisted from conducting research, firstly as amateur and later as professional, they stood outside of scientific institutions and even now they hold low positions of ladder career. Women are finally in research institutions but they still need to make great efforts to achieve recognition from their colleagues and gatekeepers. Using the biographies of some contemporary scientific women, the objective of this work is to discover the role of partners at women's professional advancement. Their partners' role can supports, interferes or outlines professional decisions of women. This work also compares different cohorts of women scientist since a long-term approach that underlines social changes in Spanish society. Findings reveal that women need to plan very carefully work-life balance because some of the most important milestones coincide in the life-course. Social expectations regarding gender roles also mold women's decisions even when they are professionals and totally independents. The role of partners if they both collaborate, family background, financial status, childcare facilities, workplace environments and gender policies also contribute to success of women in professional careers.

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**Keywords:** biography, strategies of inclusion in science, scientific careers, supportive couples, life-course, dual scientific couples, antagonist couples, mentor/mentee couples



# **La Inclusión de las Mujeres en las Ciencias. Estrategias a Largo Plazo de Mujeres Solteras o con Pareja**

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## **Resumen**

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Históricamente, la división de roles ha sido un grave obstáculo para las mujeres que trabajan en el ámbito científico. Aunque nunca desistieron en la realización de investigaciones, primero como amateurs y luego como profesionales, las mujeres se quedaban fuera de las instituciones científicas o bien ocupando los escalafones inferiores. Actualmente, las mujeres han conseguido ocupar posiciones en estas instituciones, pero todavía tienen que hacer grandes esfuerzos para lograr el reconocimiento de sus colegas. Mediante el análisis de las biografías de científicas contemporáneas, el objetivo de este trabajo es descubrir el papel realizado por sus parejas en su promoción profesional. El papel de sus parejas puede apoyar, interferir o esbozar las decisiones profesionales de las científicas. Este trabajo compara también las diferentes cohortes de científicas, desde un enfoque longitudinal, mostrando los cambios sociales acontecidos en la sociedad española. Los resultados revelan que las mujeres necesitan planificar con sumo cuidado las decisiones que tomarán, ya que diversos hitos coincidirán a lo largo de sus vidas. Las expectativas sociales sobre el rol de las mujeres también influirán en sus decisiones, a pesar de que sean mujeres profesionales, totalmente independientes. La contribución de sus parejas en la conciliación, las características familiares, la situación financiera, los recursos para el cuidado de los niños, el entorno de trabajo y las políticas de género también contribuyen al éxito profesional de las mujeres.

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**Palabras clave:** biografía, estrategias de inclusión en la ciencia, carreras científicas, parejas de apoyo, ciclo de vida, parejas científicas, parejas antagonistas, parejas mentor/mentorada.



**B**iographical studies have a long tradition in feminist literature (Rossiter, 1982; Haraway, 1989; Abir-Am and Outram, 1989; Wagner-Martin, 1994; Pycior et al, 1996; Magallón, 2004; Monnosson, 2008; Barral et al, 2014). The memoirs of personalities from the past are excellent depictions of the contexts and impediments in which these women developed their main achievements. In the past, they worked as assistants to their husbands or parents making great contributions in emerging fields of sciences (Etzkowitz and Ranga, 2011). They made research in the shadow of their male colleagues, until open-door policies enacted during the war that favoured women as a consequence of the shortage of male professionals (Pycior et al, 1996; Abir-Am and Outram, 1989; Richmon, 2006). Biographies of these women of the past reveal invisibility and barriers they had to break through.

Although female enrolment at scientific institutions is taken for granted today, women still struggle with many issues in their pursuit of positions and visibility (Etzkowitz et al, 2000; Long, 2001; Xie and Shauman, 2003; NAS, 2007; Schiebinger et al, 2008). The unequal distribution of women in sciences is usually attributed to boys' and girls' individual preferences (Eccles, 1987; Ceci and Williams, 2010; Hill et al, 2010) and the work-life balance that women faces during their life-course (Evetts, 1996; Xie and Shauman, 2003; NAS, 2007). Empirical research has provided evidence of the extent to which women are different with regard to publication rates (Kyvik, 1990; Fox, 2005; Leahey, 2006; Mauleón and Bordons, 2008), access to influential networks (Kanter, 1977; Reskin, 1979; Rossiter, 1993), and financial resources (Wennerås and Wold, 1997; Blake and Valle, 2000; Brouns, 2000; Hill, 2010). There is a consequent gender gap regarding salaries (Fox, 1981, Bellas, 1994; NAS, 2007), authority (Hipatia, 1998; Miqueo et al, 2003; Bornmann et al, 2008) and level of recognition (Steinpreis et al, 1999; Marsh, 2009). These works highlighted the extent to which scientific organisations actually contributed to women dropping out or progressing extremely slowly. On the one hand, the merit system disregards family matters despite of the fact that women hold a double role in professional and family spheres (Hantrais, 1993; Bagilhole and Goode, 2001; Krefting, 2003; Lyon and Woodward, 2004; González and Vergés, 2013). On the other hand, flexible and non-hierarchical work-based

organizational structures are more likely stimulating rather than competition and chilly environments for women scientists (Valian, 1998; Aaltario and Mills, 2000; Castaño, 2008; Whittington and Smith-Doerr, 2008; García de León, 2011).

Although, these works addressed obstacles of women's progression, there are still few works exploring what strategies have enabled women to chase professional goals and their inclusion in scientific institutions. Women pioneers into science were daughters of relevant scientists and grew up in a stimulating family background (Barral et al., 2014). Along the time, gender rights and equality policies promote the enrolment of women in higher education and, finally, increase the presence of women in the laboratories and departments of universities. With regards to Spain, socio-historical factors explain the inclusion of women in academia since the late twentieth century (López Sáncho et al, 2013). Some authors (Ortiz Gómez, 1996; Santesmases, 2000; Magallón, 2004) have explore relevant role of mentors, the support of JAE (Junta de Ampliación de Estudios, Board for Advanced Studies and Scientific Research and la Residencia de Señoritas (ladies' halls of residence) to promote studies and students exchange programs to continue emerging lines of research at international laboratories.

As a consequence of the Franco regimen (1939-75), familial policies pushed women into home and delay women progression in science. Therefore, those women who got university degrees and performed qualified jobs in the 50s and 60s are considered pioneers nowadays (González Ramos, 2014). They were pioneers because they developed professional careers in male-predominated environments and without supportive gender policies. Democracy brought swift modernisation to Spain and many women enrolled universities in the 80-90s. Women became ordinary people, not a novelty at universities as either students or teachers. However, women are segregated in the labour market, concentrated in some fields of knowledge and very scarcely in the highest rungs of professional ladder (Pérez Sedeño, 2001; García de Cortázar, 2006; UMYC, 2011).

Thus, the inclusion of women in science is recent. Nearly a complete generation is closing a cycle where only men were the reference; and very unlileky women scientists are daughters of female scientists (although they

maybe are daughters of male scientists). In the next decades, feminists will analyse the influence of mothers as role models to their daughter scientists. The future presents a very interesting scenario because young women will know the risks and opportunities of pursuing careers, from their own mothers' experiences. However, at this time, Spanish female scientists embark upon their professional careers alone or accompanied by their partners who also hold similar career.

There are many biographies of dual-career scientific couples, where both careers tend to be interwoven (Abir-Am et al, 1989; Pycior et al, 1996). Historically, couples did research activities together, making new discoveries and inventions -although women remained in the shadows because of social conventions-. Contemporary women also seem to prefer having scientist partners. Empirical research shows that female scientists are more often engaged to other professionals than men are (Schiebinger et al, 2008). The causes are very likely related with endogamy, the long and intensive working hours of scientists and the search for functional balance between work and family (González and Vergés, 2013). Therefore, are scientific partners still necessary for women to be included in science? Because feminist literature points to women's continuing subordination of women in dual-career scientist couples (Ackers, 2004; Shauman, 2010).

Exploring the career paths of women in science evidences the primary role of couples in both positive and negative terms. When women have collaborative partners, they share the same goals and commitments, so they may plan their lives in accordance with their common aims. Otherwise, antagonistic partners may spoil women's careers, coercing them into abandon their careers and causing more slowly advancement. Partners are important, and the lack of partners by choice is also significant among women scientists.

### **The Study**

This study aims to identify the professional strategies of women scientists. It adopts a life-course approach which shows women's career paths, depicting both successes and failures, decision-making processes, the occurrence of ordinary events and unexpected ones. The comparison of several women's

lives yields information about which factors contribute to the inclusion of women in science. The study takes into account the institutional environment, historical and legal changes, and also family and partners.

The research question focuses on the role of partners in women developing successful careers in science as well as their ideas about family and profession. Hypothesis claims that women need to strive for gender equality in both professional and family spheres simultaneously. However, deeply-anchored ideas concerning love and family make difficult social changes for women as well as partners and bosses and colleagues. Thus, dual-career scientific couples may facilitate the inclusion of women in science because both partners follow the same goals in family and profession.

This work delves into the lives of twenty-eight female researchers and their partners, and five single women that provide some evidence about the tendency of remaining unmarried and childless of career-oriented women (Cooke, 2011). Interviews with women's partners provided further information about the couples' relationships and experiences, although analyses in this work have primarily focused on women scientists' experiences. All women work at Spanish scientific institutions although, due to the internationalisation of science, almost all of them worked abroad for many years. Additionally, five of them are originally from other countries, but working in Spain.

The women were selected by a purposive, non-random process, combining different methods for contacting them (snowball method, web searching, mailing list and key informants). The main aspects that were given priority in the selection were related to career track, field of knowledge, marital status and children. It also took scientific merits into account, verifying whether their career paths were successful or not. Herein, a 'successful career' is when women have worked their way up the ladder to permanent positions, even if these women underwent slow phases or received little recognition from the scientific community.

Selection was related to different cohorts of women in order to explore historical factors associated with access after higher studies, the advancement of gender rights and social changes. There were women who

started their careers in the 50s who are currently retired. They were pioneers of new areas of research and faced prejudices and institutional barriers against women. The youngest ones are fellow researchers who studied in friendlier environments.

The work environment also depends on the field of knowledge and, therefore, the study included women from engineering and computer sciences, mathematicians, physics and natural sciences, human and social sciences, and health and biosciences who work at universities, research institutions and enterprises centred on science and innovation activities.

Before the interview invitation, I examined their curricula and relevant documentation published on websites and in the media. Biographical data came from in-depth interviews which were structured according to the following issues:

- The main steps in their career paths
- Influence of partner/s (including former partners)
- Institutional barriers or gender biases with respect to career advancement and merit recognition
- Strategies and series of events that have facilitated/hindered their careers
- Beliefs about family, partners and children, particularly with regard to the development of their careers
- Daytime organisation, considering work, childcare and family, as well as spare time

The interviews were recorded and then transcribed for analysis. They generally took 60-90 minutes and employed a free style of conversation. Most women were delighted to talk about their lives because of their invisibility in science. The different categories of analysis were in line with the study's main objectives. For the purpose of this work, the information used was related to old and new strategies for developing scientific careers, the role of partners and family in achieving success (professional goals and completing phases), and the visibility of their professional work. The results will be presented completely anonymously in accordance with my personal ethical commitment.



### **Strategies of Inclusion of Spanish Female Scientists**

A common characteristic of all women involved in the study is that their careers involve the development of vocational professions, not simply holding jobs to contribute to overall family expenses. In addition to obtaining salaries for their work, they are highly committed to accomplishing research activities and performing institutional functions. This circumstance has probably given them greater tenacity and self-esteem to obtain goals in their personal and professional lives, despite the obstacles referring to work-life balance, male workplace environments and social prejudices. Women require great determination to interweave personal and professional issues in order to favour self-inclusion in scientific careers.

The examination of women's career paths spotlights the mutual interference of work and family milestones, because they occur around the same time. Decisive steps in professional lives, such as earning a PhD, the mobility process and intensive track records in research, all coincide with the establishment of partnerships and making decisions about children. Thus, careers are shaped by family issues throughout their entire life-courses. And, love and family decisions are likewise moulded by professional goals and job opportunities. Success in scientific careers is dependant on institutional barriers, self-esteem and confidence, events that happen in their lives, decisions that lead to success or failure, the function of relevant people such as mentors and partners, and personal opinions on profession, partners and family.

This paper organises the information on strategies for women's inclusion in science by following sections and points of interest: changes over time of women's cohorts, the role of partners in dual-career scientific relationships, beliefs about family and profession, and the visibility of women's role in science.

### **Old and New Strategies**

Women have taken advantage of structural changes in Spanish society. Firstly, with regards to legal rights and gender equality policies, secondly,

regarding social values and gender stereotypes and, thirdly, about the incorporation of women in the scientific labour market (particularly due to the enlargement of universities and research institutions in the late twentieth century). The inclusion of women in professional careers symbolises the rupture with traditional values, where women were mainly focused on their families and a male breadwinner centered on jobs and support of the family. But women scientists undergo a certain degree of conflict due to goals in family and profession spheres require negotiation and eventually entail gender identity shifts (Bailey, 2000). Female scientists may present a strong professional orientation and great attachment to romantic love, family and children.

Most women included in this work are married and have children, although some were single, divorced or separated. These women's unions seem to have failed because of strong career orientation. Some divorced women broke off their relationships when their partners acted as barriers to their objectives. A woman explained that they eventually broke up after she went to the United States for a postdoc and she had new aspirations regarding life and career, which ended up changing the family values they previously had shared. This is an unprecedented circumstance for certain generations of Spanish women because traditional values bound women to their husbands for life. But young women face their lives in a different way, they have a diverse game of options: live with partners, break off relationships, live alone or demand more supportive partners (Komter et al, 2012). Moreover, young women claimed they had difficulties in shaping their lives in a suitable way to let play a stimulant role in both profession and family. In this regards, one woman speculated about her troubles in meeting a partner who could understand her professional aspirations. She mentioned prejudices about women holding higher positions when male partners hold lower positions. She suggested that both men and women have to figure out modern role of women regarding new lifestyles, working and family.

With regard to children, the majority has one or two children, although women take their own decision more frequently than in the past about having children or not, with partners or without them. There are five women who have no children and those women who have children delayed the first birth until they had some job security. A general idea emerges over

professional goals since women scientists consider children a very relevant issue in their lives and, unlike the past, they accept the challenge of rearing children alone, either because they are single or divorced. Therefore, a great variety of family style underline the overlapping of traditional families with one or two children, single-parent families, couples without children and childless women.

In addition, roles of women and men in the union and relationships' negotiation have also transformed. Couples take fundamental decisions together regarding careers, stays abroad, acceptance of positions and location where they will live. Additionally, women's subordination to their partners' careers (Ackers, 2008; Shauman, 2010) is no longer the only strategy in dual-career couples. As women may have high-income, they make decisions that may affect the entire family (Green, 1997). Among the participants in the study, in addition to five single women, three women support themselves and their children and two more women are the primary breadwinners for the family.

However, women are still much more engaged in family issues than men, accomplishing more and taking on more responsibilities at home (Hochschild and Machung, 1989). Although collaborative partners may assist in the tough task of managing both family and children, women still bear the brunt of family duties by choice, priority or necessity. The gender policies and institutional support may help women to balance family and professional to a greater extent than in the past, when inclusion of women in science was almost always strongly connected to the family's economic status.

### **Dual-career Scientific Partnerships**

Couples sharing collaborative relationships suggest that women take advantage of having scientists' partners, because they are able to face professional and personal milestones together, providing each other with a mutual support. Institutional barriers against women may overcome through supportive partners since they can involve in the struggles to liberate women from prejudices and stereotypes of male environments. Conversely, women

may be misunderstood by partners without similar professional challenges who are more oriented to traditional values concerning family and women's professional roles. Male partners might consider that it is unacceptable and overly-demanding for their spouses to have full-time jobs in science.

Nearly all the women interviewed who cohabit have a scientist partner. And, at least ten of these couples work (or worked, because there are two widowers) together in joint lines of research with their partners. The most senior women gratefully acknowledged the help they received from their husbands. In the past, when society roundly rejected women performing scientific activities, progression was easier for women with partners in the same line of research. According to these women, husbands counterbalanced the prejudices and institutional barriers against women in science. One woman explained that they travelled together to an excellent genetics lab in the United States for a postdoc. Later in Spain, she led the same new line of research, while her husband took up a different field to avoid competing against her. Likewise, an older couple interchanged dominant roles during their working lives. First, he led a solid line of research in agriculture on which she was part of his team, but when the line became outdated she headed up a new one with a new research team on which her husband was a member.

Many women in the study got married with partners who they met in university classroom or work teams. Feelings emerge as a consequence of spending long hours together; and, eventually, research works and interpersonal relationships ended up becoming intertwined. A couple in engineering mentioned they have a 'union of mutual interest' (Pycior et al, 1996) regarding family and work, based on their deep commitment to accomplishing both functions. The professional aspirations nurture the partnership of another two young scientific couples who created a neuroscience lab and started up a R&I enterprise respectively. Moreover, professional and personal relationships became blurred for a young woman and her ex-partner who, despite their rupture, remain working together because as she said: 'we make a great research team'. In fact, she follows him from country to country, accepting challenging lines of research and positions at his new locations.

Men and women scientists used to develop a mentoring relationship that they started when they were scholars or fellow researchers. They are able to be mentors, even if they are not in the same area, because mentors become familiar with the academic environment and the research career paths. Mentors usually provide information, advice and support; they provide truly valuable support when they are leader of the research group or thesis supervisor for their mentees. Mentor roles are adopted by older partners or those with more experience who usually are men. On the one hand, a mentor relationship might entail more linear and less uncertain careers for women, at least compared to other female scientists. On the other hand, it presents asymmetric power relationships since women usually follow male counterparts and hold subordinate positions in dual-career couples.

Another typical relationship between scientists from different areas in this study shows parallel careers. As they shared similar goals in academia, they chose to develop their trajectories side by side, providing mutual support on decisions about their families and professional paths. The uncertainty of research careers is usually viewed as a double challenge for both partners to face together. Mobility strategies are extremely interesting for verifying the commitment of both partners in parallel careers. They usually combined alternating decisions about where to go and when to go. Their decisions depended on each partner's job opportunities and the competences and abilities of the other partner.

According to the scientists involved in this study, totally antagonistic partners are rare. Only one retired woman explained her struggle against the prejudices of traditional Spanish society and her husband's machismo. She grew up in the United Kingdom as part of a family in exile, which marked her with different values. Thus, she fought to obtain her PhD while she juggled her work in a hospital and housekeeping. Her husband disparaged her efforts to obtain her doctoral degree and to work as a medical professional.

Despite positive changes in relationships and lifestyles, women have run up against new problems in how they manage and merge the romantic idea of partners and family with their own professional aspirations. Competitive women put the breadwinner model at risk and, consequently, they are

socially penalised. Firstly, women interiorise feelings of guilt when they spend more time at work than with their families. Men also seem to choose women with undemanding jobs in order to make their relationships easier and more conflict free. Finally, social stereotypes continue to replicate the traditional distribution of roles despite the fact that family and work spheres have been deeply transformed. In summary, women have to take complex decisions to balance the multiple roles they play as partners, mothers, professionals, colleagues and workers (González and Vergés, 2013).

### **Profession and Family**

Regarding conceptions on family and profession, contemporary women have clear ideas about personal development involving professional aspirations. This assumption is stressed by general success-seeking ideals and the progressive inclusion of the female workforce in the highly-skilled labour market. New realities in the workplace and at home have transformed family structures, as well as women's and men's lifestyles. However, this transformation of female and male roles with respect to family duties has still not changed much in daily practice (i.e. how they distribute children and housekeeping tasks) or ideologically (how they feel about their jobs and family responsibilities).

Contemporary couples negotiate more aspects of their family relationship but the both partners' roles remain at asymmetry of power. Although women and men are now involved in more equal relationships, they are not completely equal (Hertz, 1986). As dual-career scientist couples, they share professional aspirations, which bring new behaviour patterns into the relationship. More men endorse gender equality attitude and egalitarian distribution of duties at home. But as mentioned before, some functions and roles remain on the women side and generate tensions in the relationship. Some of these tensions concern the distribution of family responsibilities and the use of time, which is a precious factor for members of the couple since both are pursuing professional goals.

Decisions about children are also part of the complex work-life balance. Since traditional roles pose a threat to women's careers, they postpone establishing a formal union and motherhood. But female scientists usually

face the challenge of pursuing both goals –children and careers– at the same time. Moreover, women rarely express that children would ever be the reason that they gave up or became less committed to their professional goals, although this is usually confirmed by their slower progression.

Couples' financial situations relieve them of many work-life tensions. In the study, women confronted diverse situations depending on their career tracks and the family's economic status. Childcare was not a problem for women with outside support, such as housekeepers, but the majority of the women interviewed are middle class and stated that they did have some type of difficulties. To face this handicap, they turned to different types of childcare depending on their resources and the institutional facilities available: housekeeper, help from their family, nursery and school. When they have collaborative partners, they create time in their tight schedules by distributing functions for caring for the children among both of them. The organisation of childcare does change however depending on whether they have small children or teenagers, when they move to another city or live abroad, and when they don't have partners anymore (Vergés and González, 2013). Thus, institutional support is decisive to middle-class women, single mothers and those living abroad.

Looking at all the women involved in this study as a whole suggests that the more resources (institutional, economic, family support) women have, the more successful they are in accomplishing more stages. In fact, according to our data, women's success in sciences is linked to having a wealthy financial position, because of family background or later personal achievements. On the contrary, more precarious conditions in the workplace and career trajectories are associated with greater difficulties in attaining professional goals.

Apart from these issues, the environment at scientific workplaces is considered an advantage to these women. They most value the flexibility and autonomy of scientific research, over the inherent workload and great demands. However, women's efforts to obtain success in their careers require much more hard work than for men who develop lineal and accumulative stages until they reach top positions, free from family responsibilities. By contrast, despite female talent and hard-work, women

usually develop more slowly and face more interruptions in their careers than men.

### **Visibility and Acknowledgement**

Even if women have taken advantage of the support of male partners for career progression in a hostile scientific environment, women in dual-career scientific couples face the risk of their merits remaining invisible (Reskin, 1979; Rossiter, 1993). This situation has been described in biographies on female scientists from the past, pointing out that men used to obtain full and complete recognition, whereas women tended to be invisible to the scientific community (Abir-Am and Outram, 1989; Pycior et al, 1996). In this regard, it is worth asking whether or not this situation has changed in recent years. As more women hold higher and more prestigious positions, visibility problems may have been relegated to the past. However, a glance at the scientific panorama reveals many examples to the contrary. Taking the economic sciences as an example, where female representation is higher than in other scientific areas, very few women receive recognition from the scientific community. Until 2009, no women had been awarded the Nobel Prize in economic sciences, and many of the most influential economists in the world are still men.

Likewise, women's career paths in this study spotlight the persistence of the problem. Compared with their partners, few women receive more acknowledgement than their male counterparts. Thus, men usually hold the highest positions, acting as the breadwinners at home and commanding both of the couple's professional careers. Thus, women have standard careers, whereas men develop more successful ones. Notable careers of female scientists are rare. Only two women hold higher ranking and more strategic positions than their male partners, in which they have led renowned careers and received recognition from the scientific community. As these women carry out strategic lines of research, they come first when the family's goals are established. On the contrary, their male partners work in outdated or not-so-relevant topics in scientific areas. Thus, women's success seems to depend on the emergence of new areas and strategic lines of research (Etzkowitz and Ranga, 2011).



According to the discourse of two female leaders in the study, their success can be explained as a lucky strike at the beginning of their careers, which linked them to brilliant futures in their professions. In these cases, they stress that they enjoyed the support of their partners throughout their entire career path. For example, one woman explained she was selected by a headhunter when she was just finishing her telecommunications degree, and that she had always had the support of her partner.

However, the majority of women involved in the study have had standard careers in comparison to their partners who have garnered major recognition from the scientific community (regarding professional position and recognition). The decision-making process of dual-career scientific couples is mediated by their gender ideology on assuming roles. Dual-career couples take decisions in accordance with their past experiences, in which women have faced much greater difficulties pursuing scientific careers. Women struggle with work-life reconciliation and many obstacles in order to reach top positions on the scientific career ladder. Consequently, couples take more coherent decisions regarding dual careers that support male aspirations instead of the woman's goals, unless she has more clear-cut opportunities than her partner. A powerful system of previous conceptions works to perpetuate the imbalance of professional opportunities. The joint balancing of family and career objectives in hostile institutional environments makes women's progression in scientific careers much slower and more fraught with problems, which end up representing the grounds for the dual-career couple's decisions.

### **Conclusions**

According to specific objectives, this study reveals that women from different social classes and generations have employed a wide range of strategies to face and handle problems related to work-life balance, partnerships, children and professional goals that are related to the advancement of gender issues. Despite male scientific environments, young women enjoy a more comfortable situation than older ones, because gender policies favour women in professional roles. However, contemporary female

scientists still have a weaker position than their male counterparts because of the asymmetrical distribution of gender power in private lives and stereotypes about women being less committed to professional careers. Persisting stereotypes make difficult equality between women and men, with respect to professional goals and work-life reconciliation. This suggests that gender ideology has to be attained through parallel advancement in both institutional spheres and private lives.

Therefore, social changes have led to the emergence of new scenarios in which women and men can develop their professional and family aspirations. Regarding women, they can select from among different choices throughout their lives with respect to professions, partnership and having children. In this sense, several lifestyle and family models have materialised as a result of contemporary lives. However, other issues related to traditional values about children and romantic love prevail among female scientists. They adopt strong professional orientations, accepting and taking on family challenges at the same time. Thereby, women's paths are slower and less successful than their male counterparts. Having support available is a key element in encouraging women's place in science. This support may come from their partners, public policies or scientific institutions.

As biographical studies have shown, the selection of partners is a key decision for female scientists, although the new options of divorcing or remaining single can help them elude antagonistic partners. The women's lives in this study also show partnerships in which different support strategies are established in professional and family spheres. Some women make a solid and deep commitment to their partners to face labour and personal challenges; mentoring relationships are common among scientists; parallel careers are also prevalent, usually because both partners share similar milestones along the course of their lives.

Despite women's great determination to pursue professional goals, women have to face conflicting expectations about juggling partnership and children and professional aspirations. Family issues interfere with professional aspirations, making female scientists' advancement difficult. The more traditional the roles that women hold, the more difficulties they have in handling ambitious careers. Collaborative and supportive partners make a positive contribution to their progression, but this is not enough for

work and family reconciliation because of the unequal distribution of functions. Resources are fundamental so that women can obtain middle-class positions and have children. Successful careers in science seem related to wealth, due to their family backgrounds or moving into a new social class. Apart from that, women scientists assess the scientific workplace as a positive environment that helps them manage work and family spheres, emphasising flexibility and autonomy in working hours. The advantages are further enhanced by the freer and less constrained working style at scientific institutions.

Although some women have attained success in their careers, the majority have led standard careers that are most frequently subordinate to their male partners' jobs. Invisibility is usually the counterbalance to enjoying mentoring or supportive partnerships because men, who hold strong positions in scientific institutions and collect recognition from colleagues and the scientific community. Few women are the most relevant in these dual-career scientific couples and when they do hold high positions is due to they are developing strategic or emergent lines of research.

Our findings support the idea that cohorts of women are decisive in planning successful strategies for inclusion in science, considering the professional and personal issues involved in reaching these goals. The role of partners and women's pre-established beliefs about family and children are also fundamental. Women are clearly extremely determined with regard to their professional aspirations, although traditional paradigms concerning childcare, family and relationships are still handicaps throughout their professional lives. They do though have more choices for handling work and family challenges than older women, selecting their partners, demanding support from them, planning motherhood or living alone. However, more policies and institutional facilities are required to deal with both professional and family spheres, so that they can attain success in science and reach the same levels as their male partners without so much pressure and hard-work. Women in science try to accomplish the same goals as men, while battling conflictive roles in their life paths. Social changes have opened up a new avenue for professional women, but there are still deeply-seated and old-fashioned values that impede and put up hurdles to fair play between women

and men. This research emphasises the interlocking of institutional and personal factors involved in the inclusion of women in science, and that women need working together in order to launch more gender sensitive policies for assisting women over the course of their lives.

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