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Chapter 4

Gender and Health

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Abstract

Research has found differences between women and men in some health indicators. Women's life expectancy is higher than men's, but research on differences in morbidity has proved less consistent than on the differences in mortality. These differences vary in terms of the type of health indicator used, the life cycle period analyzed, and even the country where research is conducted. Generally, men have more life-threatening chronic diseases at younger ages, including coronary heart disease, as well as more externalizing mental health problems and substance use disorders. Women present higher rates of chronic debilitating conditions such as arthritis, frequent or severe headaches, gallbladder conditions, and also more internalizing mental problems such as affective and anxiety disorders. Results of research on the differences between women and men in self-rated health have also highlighted the complexity of gender differences in health. Although several studies have shown that women have poorer self-rated health than men, this is not the case in all countries. Also, differences in self-rated health vary depending on other psychosocial and demographic variables. The present study reviews the main differences in women's and men's health as well as the most relevant factors that may account for them.

Keywords: gender, physical health, mental health, self-rated health, well-being, masculinity, femininity

1. Introduction

The existence of gender differences in health, and the reason for such differences, is a complex issue whose research and explanations are not bias-free. Studies conducted in several countries have revealed differences between women and men in some health indicators. In spite of the fact that women's life expectancy is higher than men's, it has been traditionally believed that women had poorer health, and higher morbidity and incapacity rates than men, and used

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health services much more often than men. As proposed by Lahelma et al. [1], such a belief was so much deep-seated that no further explanation was required. However, the research conducted from the 1990s onwards has questioned such a belief and has shown the complexity of gender differences in health [2], whose presence, magnitude, and/or direction depend on, among other variables, the health indicator used, stage of life span development, and even the country where the study is conducted. Besides, women and men show a high intra-group variability, and there exist significant and complex, and not yet well-known, interactions between gender and other variables.

Much of the research on the differences in sex health has been dominated by two perspectives [3]: (1) the empirical study of trends and explanations of sex differences in mortality and morbidity and (2) the specific patterns of disease for each sex, which have frequently corresponded to differential politics and research on "women's health" and "men's health". As such authors assert, this has definitely contributed to a better understanding of the distribution of the causes of disease and mortality as well as to greater attention to some issues pertaining the health of women and men; however, they have likewise reinforced the binary model underlying the construction of sex (male/female) and gender (masculine/feminine), as well as the treatment of sex and gender as easily separable.

Currently are recognized the existence of social determinants of health and gender counts as an important determinant of health as it structures opportunities and vital risks [4]. Women and men not only differ in biology, they also differ in the roles and responsibilities that society assigns them [5]. The World Health Organization (WHO) recognize sex and gender difference as: "Because of social (gender) and biological (sex) differences, women and men face different health risks, experience different responses from health systems, and their health-seeking behavior, and health outcomes differ" [6].

In this chapter, we review the main differences between women's and men's health as well as the principal factors that may explain them. We start by reviewing the major differences between women and men in physical health, beginning with life expectancy, and next we analyze the principal differences between women and men in morbidity. Secondly, we treat main gender differences in mental health, an area which has traditionally posited that there are differences between women and men, including the question of comorbidity and gender differences in well-being will. After that, we review gender differences in self-rated health, a concept that has proved to be an important health indicator and a consistent predictor of mortality. Finally, we analyze the factors that seem to be the most relevant ones for explaining differences in health between men and women.

2. Gender differences in health

One of the most used health indicators of the population is life expectancy. Life expectancy indicates the average number of years an individual of a given population is expected live. This is "a summary measure of mortality rates at all ages, and all health-related programs contribute to it. Despite large gaps in the coverage of global mortality data systems, mortality

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is more amenable to accurate measurement than disease or disability" [7]. Although life expectancy at birth has increased in all countries from 1950, there are substantial regional and national variations as well as noticeable gender differences. In 2015, the highest life expectancy was in Japan, with 83.7 years, and the lowest in Sierra Leone, just 51 years; and while in 29 countries (mostly European), life expectancy was ≥80 years, in 22 countries, all from sub-Saharan Africa, it was <60 years. The existence of gender differences in life expectancy at birth has been acknowledged in all the regions and in all countries of the world. Globally, female life expectancy at birth used to overtake male life expectancy at birth. In 2015, global life expectancy at birth was estimated 73.8 years for women and of 69.1 for men [7]. Although the magnitude of the differences varies among countries and has decreased over the years, it has been found that in countries like United States and Spain, women tend to live, on average, between 5 and 6 years longer than men [8, 9]. In 2015, in developed countries, the lowest differences between men and women occurred in Iceland, where there was a difference of 3 years and in Sweden 3.4 years, whereas the highest differences occurred in the former Soviet countries, being 11.6 years in the Russian Federation and 9.8 in Ukraine [7].

Given that the aging of population and the prominence of chronic diseases, a new indicator is proposed, which takes into account not only the number of years a person can expect to live —as with life expectancy at birth—but also the number of years in full health a newborn could be expected to live: It is healthy life expectancy. If it could be measured reliably, healthy life expectancy would make an ideal indicator since it manages to include both mortality and the years the individual fails to live in full health, that is, morbidity or disability [7]. According to WHO estimates, healthy life expectancy for 2015 is estimated globally at 61.5 years for men and at 64.6 for women. On average, healthy life expectancy for both genders is 11.7 years below life expectancy at birth. The main contributors to the loss of healthy life are musculoskeletal disorders (namely back and neck pain), mental and substance use disorders, especially depression and anxiety disorders, as well as neurological disorders, vision and hearing loss and cardiovascular diseases and diabetes. Because the prevalence of most of these diseases increases with age, the proportion of the life span spent with these health problems increases as life expectancy increases [7].

Although many countries still lack adequate death-registration capacity [7], it has been found that men have higher mortality rates than women at all ages [10, 11], but in some countries, discrimination against girls makes infant mortality rates lower in boys than in girls [12]. Differences between women and men are also found when analyzing the causes of death by age. A study carried out by the United Nations [13] in 197 countries proves that women and men die of different causes. Study also reveals that although during adolescence and young adulthood mortality rates are low, in developing regions, many adolescent girls and young women die of further complications linked to pregnancy and childbirth as well as sexually transmitted infections, particularly HIV. On the contrary, in these developmental stages, the most common causes of death among men—in either developed countries and developing regions—are road injuries, interpersonal violence, and suicide. Although in developed regions injuries are also a leading cause of death among young women, rates are much lower than those for young men. At older ages, the most common non-communicable diseases causes of

death are cardiovascular disease, cancer, chronic obstructive pulmonary disease, and diabetes, as well as mental disorders, especially dementia, which is more common in women because of their greater longevity [13].

Studies on gender differences in physical morbidity have been less consistent than the differences in mortality [14, 15]. It has been found that these differences vary according to the type of disease and analyzed life-cycle period. Although the leading causes of death (diseases of the cardio circulatory system and cancer) are the same for men and women, men show more life-threatening chronic diseases at younger ages, including coronary heart disease, stroke, cancer, emphysema, cirrhosis of the liver, kidney disease, and atherosclerosis; in contrast, women present higher rates of chronic debilitating disorders such as autoimmune diseases and rheumatologic disorders, as well as fewer life-threatening diseases such as anemia, thyroid problems, migraines, arthritis, gall bladder conditions, and eczema [9]. But, although research has pointed out differences between women and men in some health problems, such differences seem to be smaller than originally thought of. In a study conducted in the United States with a representative sample of adults, differences in seven out of 16 studied diseases have been found. Women and men are equally likely to report chronic back or neck problems, any other chronic pain (excluding headaches), high blood pressure, asthma, chronic lung disease, diabetes, ulcer, epilepsy, cancer, and medically unexplained pain [16]. Women are significantly more likely than men to report chronic debilitating conditions, such as arthritis, frequent or severe headaches, seasonal allergies and removal of the gallbladder, while men had higher rates of some life-threatening conditions, including stroke, heart disease, and high blood pressure.

A study examining gender differences in health in persons aged 50 or more from 12 European countries and the United States revealed that differences depended on the health condition studied and occasionally on the country too. Despite this, women from all the countries were more likely than men to report disabilities, non-lethal conditions including problems in daily functioning, depression, and arthritis, whereas men reported heart disease much more frequently [14]. However, although women would oftentimes report more difficulties than men to perform daily life activities, this was not the case in all countries. While in some of them it was more common for women than men to report hypertension, the differences proved statistically significant in just six of those countries. Most countries presented no significant difference between men and women in diabetes and lung disease, nor did they observe any difference between men and women in stroke.

Likewise, some other studies presented samples of men and women from several countries aged above 44 [11]; findings uncovered that women reported greater physical disability than men, yet the age at which women's disability began to be higher than men's depended on the country, being from 50 years in the United States, 70 in Denmark, and the 85 in Japan. Disability scores were lower among Danish men and women aged 70–84, but women observed higher disability at an older age. Japanese men and those from the United States had similar levels of physical disability, but Japanese women were less disabled than women from the United States. Immediate memory and cognitive function analysis showed that there were no statistically significant differences between women and men.

Cerebral stroke is a leading cause of death worldwide being the biggest cause of long-term disability in developed countries. Epidemiological and experimental studies have revealed significant differences between women and men both in the incidence of stroke and in the amount of its resulting pathology, although such differences are also dependent upon the stage of life span [17]. Ethnic group could also be relevant in stroke rates, since several studies conducted in the United States with people aged 45–74 found differences in stroke rates depending on the ethnic group. Stroke rates provided no gender differences in white people aged between 45 and 54 (this was the group scoring the lowest rates), but above this age, range rates were higher in men than in women [18].

The study of gender differences in health at the level to biomarkers and the association between these and health did not demonstrate any clear differential patterns between women and men. A prospective population study conducted in Russia with people aged 54 and over showed that women had worse indicators in obesity and waist circumference, while men tended to present higher prevalence of electrocardiographic abnormalities. There were no differences between men and women in the prevalence of immunological biomarkers, and mixed patterns were found for lipid profiles. Obesity and waist circumference were related to lower physical functioning only in women, while alterations in the electrocardiogram were associated with greater likelihood of myocardial infarction and physical functioning and self-rated health only among men [19].

3. Gender and mental health

In Western societies, the existence of gender differences was first detected during the industrial revolution in the nineteenth century, the era where women were represented with worse mental health than men as the "dominant conceptions of mental illness were feminized" [20]. As Hill and Needham assert, nineteenth-century medicine concluded that woman was mentally and physically inferior to men and many middle- or high-class women who had symptoms of fatigue, irritability, or anxiety were diagnosed with "hysteria" or "neurasthenia". As a matter of fact, such disorders were attributed to the female reproductive system and disease was considered be the "natural state of women" [21]. The female gonadal cycle has been ancestrally linked to instability and mutability, namely the moon cycle, and menstruation has been considered as impure, even as malignant, thus generating a series of discourses about women in relation to certain stages of their menstrual cycle, or to its definite cessation during menopause, which rendered women unbalanced or deranged [21]. Possibly, it was Freud who first proposed a systematic theory comparing women's and men's health, whereby he eventually maintained that men are mentally superior to women [22]. Although such proposal was strongly criticized, even from within psychoanalysis, he has exerted a strong influence on traditional psychiatric and medical thinking.

The discourse about women's worse mental health has prevailed over a great part of the twentieth century, being a belief that relied on the fact that women suffered from more depression and anxiety than men. But several changes in what really constitutes mental illness together with epidemiological studies carried out in recent decades have definitely challenged

such belief. Currently, mental disorders include some other conditions that had not been taken into account before, namely substance abuse and personality disorders. Both of them are more frequent in men than in women, so as a consequence the rates of man's and woman's mental health disorders have been brought closer one another [23]. Population surveys and epidemiological studies carried out in different countries with adult population have shown that women have higher rates of affective and anxiety disorders than men, whereas men present higher rates of externalizing type and substance use disorder than women [24–29]. Specifically, it has been found that women show higher prevalence in major depressive disorder, dysthymia, generalized anxiety, panic disorder, social phobia, and specific phobia, while men show higher prevalence rates than women in antisocial personality disorder and alcohol, nicotine, marijuana, and other drugs dependence [24, 25].

Although there is evidence that women and men differ in the rates of some mental disorders, gender differences in overall psychopathology rates are more controversial. The most prevalent 12-month disorders in the population are those of anxiety class disorders, followed by mood disorders, impulse control, and substance use disorders. But prevalence differs from severity, and although anxiety disorders are the most common mental disorder, the proportion of serious cases is lower than in the case of other types of disorder [30]. Hill and Needham [20] claim that a direct test of gender differences in psychopathology would require a thorough and systematic analysis of gender differences across all mental health conditions known, which is not easy to carry out given the medicalization and proliferation of diagnostic categories, which change frequently. In addition, the tendency to regard women's health as pathological is still prevalent. The Diagnostic and Statistical Manual of Mental Disorders (DSM) system considers men as the standard behavioral pattern, so women are more frequently diagnosed with pathologies. Thus, assertiveness and independence are still considered important behaviors for mental health, whereas emotional expressiveness can be regarded a sign of problems [31]. Typical male behaviors such as assertiveness and autonomy are defined healthy and emphasized in the socialization of men; on the contrary, typically female behavior such as emotional expressiveness, which is promoted in female socialization, is presented as a sign of mental health problems. Such association of ideas about female and male behavior determines a description of mental disorders that reinforces the idea that women are more likely diagnosed than men, even though such behaviors are not owing to any pathology. Feminism has consistently criticized how many of the psychiatric diagnoses are pervaded with dominant gender ideologies and have been used to regulate the problem behavior. Against the individualistic account of the DSM, they insist that psychological suffering is associated with social, economic, and political context. In addition, they assert that ideological power operates through social institutions, including medicine and mental health systems [32].

There is evidence that many people have more than one mental disorder and that some of the disorders are associated one another. Comorbidity studies have shown the existence of a two-dimensional model of progression and overlap between problems of internalizing type and externalizing type [30]. Such model includes the most common mental disorders and excludes other forms of psychopathology such as schizophrenia; however, the model is invariant with respect to gender although men prove to have higher scores than women in the externalizing

dimension and the women present higher scores than men in the internalizing dimension. Affective and anxiety disorders are included in internalizing dimension and can be divided into two subfactors: (1) distress, which includes major depressive disorder, dysthymic disorder, and generalized anxiety disorder and (2) fear, which includes disorders such as panic disorder, social phobia, and specific phobia. The externalizing dimension includes disorders such as antisocial personality and the dependence of nicotine, alcohol dependence, marijuana dependence, and other drug dependence [25].

Studies that have examined gender differences in depressive symptoms have also found higher symptoms in women than in men [14], but gender gap varies in different countries. A research analyzing data from several studies and surveys with representative national samples made in Denmark, United States, and Japan with people aged 45 and older [11] rendered that, although the depression level tended to be higher in women than in men in almost all ages, differences tended to be very small and were not statistically significant in Japan, where men slightly experienced more depression than women aged between 75 and 84, although from 85 on women scored more depression than men. Analysis of the trajectories of depression depending on age did not show the existence of specific patterns in women and men. In general, the level of depression increased with age in the case of Japanese and Danish women, but in the United States, it decreased to 65–69 years in women and up to 70–74 in men, increasing in both sexes from this age on. In a cross-sectional study made in Spain [33] with 726 women and 615 men of the general population aged between 20 and 65, it was found that, although there are no any statistically significant differences in depressive symptomatology or in self-esteem between young women and men, women above 40 years reported greater depressive symptomatology and less self-confidence than men of similar ages.

Although we have analyzed under different headings the physical and mental health conditions, they are not independent categories because quite often mental and physical health problems are inter-related. For example, medical disorders associated with anxiety include rheumatoid arthritis, migraine, peptic ulcer, irritable bowel syndrome, coronary heart disease, hyperthyroidism, asthma, diabetes, and chronic obstructive pulmonary disorder [34]. Comorbidity is defined as "the co-occurrence of mental and physical disorders in the same person, regardless of the chronological order in which it occurred, or the causal mechanisms that link them" [35]. According to the review study carried out, which included results of epidemiological studies and scientific publications, it was found that "comorbidity between medical problems and mental conditions is the rule more than the exception". Such analysis revealed that comorbidity rates were high. For example, more than 68% of adults with a mental disorder had at least one medical disorder and 29% of persons with a medical disorder had a mental health problem [35].

It has been found that women present greater multimorbidity than men. Multimorbidity is a broad concept that refers to the cooccurrence in one person of two or more long-duration health problems [36] which can be either physical or mental, or physical and mental simultaneously. It is a major problem in primary care since it increases with age and elevates the risk of premature death, hospitalization, disability, depression, and poorer quality of life (see review in Violan et al. [37]). In a study recently published with a large national sample of Scottish

patients of all ages, Agur et al. [36] found that multimorbidity increased with age and from the age of 45 and, although differences were not large, multimorbidity was more common in women than in men in all age groups. The biggest difference (6.9%) was found in the group aged between 45 and 54 years and the smallest (1.4%) between 65 and 74 years, although the difference in the age group 75 or plus years was of 1.6%. Physical-mental comorbidity was more common in women, and physical multimorbidity was more common in men. The largest differences between women and men were given when multimorbidity was physical and mental, although the magnitude of the differences depended on age. When analyzing the most common causes of multimorbidity in women and men in the different age groups, it was found that in women below 55 years, depression was the most frequent condition, and above the age of 55, hypertension was the condition with the highest prevalence. In men with multimorbidity, drugs misuse was the most common condition in the age group between 25 and 34, depression for men aged 35–44, and hypertension for men aged 45 and over. Across all age groups depression, pain, irritable bowel syndrome, and thyroid disorders were more common in women than in men.

Research on gender differences in health had included life expectancy and the presence of diseases and health problems as indices of health status, based on the medical model of health focused exclusively on illness and disease [38]. This model has prevailed in the Western world in spite of the fact that as early as 1948 the WHO defined health as "a state of complete physical, mental and social well-being and no merely the absence of disease or infirmity" [39]. This perspective has been changing in recent decades and the importance of well-being has been highlighted. There are two broad traditions in the well-being research: the hedonistic and the eudaimonic [40]. In hedonic well-being, the pursuit of pleasure is central, and from this perspective, the focus lies on the subjective well-being, which includes components such as happiness, life satisfaction, and positive affect [41]. Typically, the measures of subjective well-being consist of an overall appraisal of every aspect of the person's life [41]. This is a perspective which has inspired multiple studies about the individual well-being and which has been also adopted in national well-being studies [42]. From the eudaimonic tradition, well-being is considered to be more than happiness, and this refers to living life in a complete and satisfying way [43], encouraging personal growth and self-realization [44].

Research on gender differences in well-being had not produced conclusive results. In general, no significant differences are found in the mean well-being scores between men and women, but women experience positive and negative emotions more frequently and with greater intensity than men [45]. Although gender differences have been found in some dimensions of well-being, differences usually depend on other factors such as culture, age or occupied roles as well as on the type of well-being analyzed. In studies carried out in various countries around the world, especially in high-income countries, it was found that when women and men register similar conditions (e.g., pay and employment conditions), women report greater life satisfaction than men, although these differences depend on the phase of the life cycle [46]. In eudaimonic well-being, research has consistently found higher score of women in comparison with men in positive relationships with others [47, 48]. It was also found that men from different

cultures score higher than women in self-acceptance and in autonomy [47, 48], but in Karasawa et al. [48], gender differences in autonomy only appear in young adults.

4. Gender differences in self-rated health

One of the indicators most commonly used when comparing women's and men's health is self-rated health. It is a subjective global assessment of the state of health carried out by the individual himself/herself that consists of a single-item measure with five-level option of answers on an ordinal scale [49]. Self-rated health has proved to be a multidimensional concept that includes, besides the evaluation of physical aspects, the extent to which participants considered are able to perform (functional dimension), the extent to which they are adapted to, or their attitudes towards an existing illness (coping dimension) as well as how they feel (well-being dimension of welfare) [50].

For more than four decades, self-rated health has been included in the epidemiological studies of mortality, together with socioeconomic characteristics and measures of social networks, in addition to traditional risk factors such as smoking, alcohol consumption, overweight, history of disease, and current health status. Self-rated health has proved to be a consistent independent predictor of mortality, despite the inclusion of numerous specific health status indicators and other relevant covariates known to predict mortality [51]. It has also been found that self-rated health is correlate with previous, current, and future hospitalization, indicating that such a measure is not only adequate to assess current health status as it also contains information about future health status [52].

The results of research on differences between women and men in self-rated health have also highlighted the complexity of gender differences in health. Although several studies have found that women have poorer self-rated health than men [49, 53, 54], this is not the case in all countries [11, 55, 56]. Evidence of poorer self-rated health in women with respect to men has been found from adolescence [57] to old age [54], but gender differences in self-rated health vary depending on other family, behavioral, and psychosocial variables such as empowerment, stress levels, physical activity, or social capital [49, 57]. Moreover, they vary according to educational level [58] and sexual orientation [59, 60]. In addition, it is found that when disease presence and functioning problems are controlled, the differences between women and men in self-rated health disappear or, either, males rate their health worse than women. Thus, in the study conducted by Crimmins et al. [14] in 12 European countries and the United States with people aged 50 years and older, it was found that, after controlling age, five countries showed a higher percentage of women than men reporting poor or fair health. When diseases were also controlled, in just two countries women did more frequently rate global health worse than men. And when functioning was also controlled, the percentage of women who assessed their health poorly was higher than men in just one country, whereas males rated their health worse than women in five countries.

In the aforementioned study of Oksuzyan et al. [11] with people over 44 years living in Japan, Denmark, and the United States, there were no differences between women and men in self-

rated health in either of the three countries. In all of them, self-rated health decreased with increasing age, but the declining was similar in men and women. However, some differences in self-rated health were found among these countries. Danes reported better self-rated health as compared with Japanese and people from the United States, whose levels were very similar. But although there is evidence that the country of residence is a relevant factor in gender differences in self-reported health, the causes for gender gaps between countries are not easily explained [55]. In a study analyzing the data of surveys carried out in 28 European countries with people aged 15 years or more and responses from 190,103 people, Dahlin and Härkönen [55] found cross-national variation in gender gaps in subjective health. In many countries, women reported worse health than men, while in others, there were small or no differences. Countries where women were more disadvantaged with respect to men tended to be those of Eastern and Southern Europe. Although in some countries gender differences in self-reported health could be explained by individual socioeconomic and demographic variables, cross-national variation in the gender gaps remained. Cross-national differences in women's socioeconomic status did not account for gender differences in health, but the smaller gender differences in self-rated health were found in countries with higher levels of human development.

Another factor that seems to be relevant in gender differences in self-reported health is social capital, a concept whose relevance in health research has increased in recent decades. Although there is not a unique conceptualization of social capital, it usually "refers to various levels of social relationships formed through social networks" [61]. It includes elements such as social involvement, interpersonal trust, cooperation, mutual aid, or social networks, and two levels can be distinguished as follows: the individual and the collective. The collective social capital refers to characteristics of workplaces, communities, and neighborhoods, while the individual social capital refers to structural and cognitive elements related to the individual's social relationships [62]. Cognitive components make reference to perceptions and feelings about network involvement, and it is frequently assessed through perceived trust, reciprocity, safety, and support. Structural components refer to the actual participation in various networks and can be evaluated through variables such as social participation (i.e., involvement in formal organizations, associations) and informal socialization involving interactions with family, friends, etc. [63].

In a recently published longitudinal study [63] conducted in Sweden with 21,139 people, it was found that social capital bears complex effects on self-rated health and some effects are different for women and men. Although cross-sectional association between structural social capital and health was similar in men and women, the effects of change in access on social capital differ. In the first assessment, it was more likely that women and men with no/very low level of informal socialization evaluated their health lower than those who had high levels of informal socialization. A similar trend was observed for social participation, but the effect was less prominent. In the evaluation carried out 10 years after the first evaluation, the same pattern was found in social participation while the informal socialization effect was attenuated. The proportion of women that reported high-level of informal socializing was slightly higher than men's. In a period of 10 years, changes in informal socialization and social participation were

associated with health changes, which were still controlling sociodemographic variables and health risk, but effects were complex and differed in women and men. Remaining with no/very low or low level of informal socializing or social participation over time increased the probability of evaluating health very poorly either for men and for women. Also decreasing informal socializing or social participation over time was associated with poor self-rated health in both genders. But, only among women, gaining access to social participation increased the likelihood of reporting poor health.

Another dimension that seems to be relevant with respect to differences between men and women in the association between social capital and self-rated health is bonding/bridging. Bonding social capital "refers to trusting ad cooperative relations between members of a network who see themselves as being similar in terms of their shared social identity" [64]. Bridging social capital implies less strong links among members of different groups, and it "comprises relations of respect and mutuality between people who know that they are not alike in some sociodemographic (or social identity) sense (differing by age, ethnic group, class, etc.)" [64]. In a study made with 2155 residents in the city of Okayama aged between 20 and 80, results showed that bridging social capital was associated with better self-rated health in women and men, although women appeared to benefit more than men. Although bonding social capital was not consistently associated with better health in women, men may benefit more from bonding social capital than women. But these patterns do not seemingly keep when the study is made with older people, even in the case of people from the same cultural background. A study of Japanese people aged 65 or over showed that, among men, bonding and bridging social capital were inversely associated with poor self-rated health. Among women, the beneficial effects of social capital were less pronounced and seemed to be limited to bonding social capital [64].

5. Factors explaining gender differences in health

Differences in health between women and men have been tentatively explained in terms of several factors that range from biological to social ones. Biological explanations tend to focus on the role of sex hormones, but research has shown the relevance of psychosocial factors such as self-identification in traditional gender roles, sexual division of labor, stress, and health behavior. Likewise, structural factors are relevant to account for gender differences in health.

Traditional explanations about differences in health and life expectancy between men and women are biological in origin. Yet such proposal fails to explain that most differences in life expectancy vary according to different countries and in different periods of time. Moreover, life expectancies and the magnitude of gender gap in life expectancy are associated with economic and social changes and they are liable to variation within subgroups in the same country. This indicates that life expectancy is influenced by social, environmental, cultural, and behavioral patterns [65]. Also, biological explanations cannot explain why the gender gap in health differs across countries and social groups.

Biomedical research has investigated biological differences in anatomy and physiology between women and men, especially those related to the reproductive system, as well as a

wide range of metabolic and hormonal factors. Although these biological differences are important in the morbidity and mortality patterns, they have been considered as independent of social environment factors [66]. And although biological factors, such as genetics and hormonal exposure, may contribute to differences in the health of women and men, a wide range of social processes can also create, maintain, or exacerbate underlying biological health differences [67].

The postulates underlying the traditional medical model of illness, which attributed health problems and diseases to the individual's internal characteristics, are being currently displaced by the acknowledged existence of social determinants of health, a concept that refers to the conditions in which people have been born, grow up, live, work, and aged. The social determinants of health are conditions that influence on the opportunities a person has to live a healthy life, his/her risk of illness and life expectancy. Gender is an important determinant of health that structures opportunities and vital risks [4]. Women and men do not only differ in biology, they also differ with respect to the roles and responsibilities that society assigns them as well as their positions in the family and in the community; all of these affect the risks they take, those they are exposed to, their efforts to improve their health, and how the health system responds to their needs. In addition, it may also have a bearing on the causes, consequences and management of disease and ill health [5]. The WHO [6] asserts that in many societies, women have less access to health information, care services, and resources to protect their health and that gender norms also affect men's health by assigning them roles that promote health risk behaviors and cause them to neglect their health. In addition, gender interacts with race and other social categories by generating inequalities among various social groups and between men and women.

Stress has been proposed as an explanatory factor of gender differences in health, because gender seems to be relevant in each element of the stress-health process, from the appraisal or not of a given event as stressful up to coping, as well as in the relevance of responses to stress in health issues [68]. Despite this, there is no unanimity on the results rendered by research on gender differences in stress since results depend on the stress type analyzed and the study sample, among other factors. Thus, and as is the case in other areas of research about gender and health, gender differences in stress and coping tend to diminish, and even disappear, when women and men have equal jobs and similar socioeconomic conditions (for a short review of stress and gender, see Matud) [69].

A lower social status of the female gender, and the ensuing prejudice and discrimination, can be a source of stressor for women, in addition to other conditions that are more frequent in women than in men such as being victims of domestic violence, sexual abuse or poverty. Also, women's role as homemakers, wives, and mothers can be stressful because they often combine high psychological demands and a low level of control, which are the two characteristics of stressful roles [69].

Research conducted in various countries has revealed that there are differences in the time uses of women and men. Women perform most of unpaid household chores and care of others, while men spend more time on paid work, and leisure and sport activities. There is evidence that the various uses of time are relevant in women's and men's health and quality of life. For

example, research has showed that daily time spent on childcare is associated with distress only in women [70]. The perception of the distribution of domestic work as unfair has been associated with mental health symptoms and relationship problems [71]. Also, it has been recognized that women who do most of the housework are put at a disadvantage with respect to men when developing professionally [72].

Over the last decades, scholars have acknowledged the negative consequences of social relations, as social networks can also involve obligations and create tension and stress. In fact, negative social interactions have been found capable of better predicting health problems and low well-being than the positive ones [73, 74]. Perhaps, this negative aspect of social capital is more relevant to women, since women are more frequently a source of support than men and because women tend to be more involved in family and social networks. Social networks can create or increase distress: when disrespecting or disapproving their members; when disclosing confidences or failing to fulfill other's expectations; when they do excessive demands to the person giving support; and when the stressful circumstances experienced by network members are spread onto other network members [74]. As Belle asserts, supportive aspects of social ties are more pronounced among members of subgroups with high levels of personal resources, such as income, education, and internal locus of control, while the costs are greater among people with fewer resources. Since many women have fewer resources than men, the negative effects of social networking will be greater for women with fewer resources.

5.1. Gender roles and health

Although there is empirical evidence that women and men are similar in most psychological traits [75], the majority of societies consider they are different and should fulfill different roles; therefore, they are socialized differently according to the sex they are assigned at birth. As suggested by Sandra Bem [76], the distinction between male and female is a basic principle of the organization of each culture, in which adult roles are distributed and allocated based on sex, and this allocation is anticipated in the socialization of their children. Sex typing is the process whereby society transmutes males and females into masculine and feminine. The gender schema theory proposed by this author suggests that "sex typing results from the fact that the self-concept itself gets assimilated to the gender schema" [76]. Masculinity and femininity designate the features, behaviors, and interests that society considers appropriate for each gender. Masculinity is associated with an instrumental orientation, central to which is agency, characterized by focusing on the self, prioritizing independence, and the achievement of personal goals. On the contrary, femininity is associated with an expressive orientation, to which communion, defined as focusing on the others, is central [77]. However, there is evidence that individuals differ significantly in their knowledge structures about gender, as well as in how gender is integrated into their self-concept. Bem's gender schema theory suggests the existence of individual differences in the adherence to gender roles, in sex typing, and in the extent to which being male or female is an outstanding feature of their self-concept [77].

Classic theories about the differences between women and men in gender roles and in sex typing held that such differences were normal and healthy because they reflected the social

standards about the appropriate behavior to each gender. However, it has been suggested that investment in gender ideals may be stressing for men and women, because these ideals are socially imposed, hinder self-regulation, and are related to the external representation of self-worth [78]. It has been also suggested that strict adherence to masculine and feminine roles can limit the range of potential behaviors and choices of women and men, which would mean a limitation to the development of those personal characteristics which do not conform to what society considers appropriate to that gender.

Although there is evidence that the psychological traits traditionally associated with masculinity (i.e., assertiveness, independence, and agency) are good for women's and men's mental health and well-being [79], in recent decades it has been recognized that traditional masculine roles prescribe a series of behaviors that may be responsible for men's inferior longevity and for some types of pathology that men suffer more frequently than women [80]. Hegemonic masculinity is associated with unhealthy life styles, with less appropriate diets, and with more alcohol and drug use. Moreover, it is more common for men to carry out another series of physically dangerous activities, such as high-speed driving, or under the influence of alcohol, and the practice of extreme sports. Courtenay [80] asserts that, since recognizing disease gives men lower status, they do not often express their problems or needs and, quite usually, avoid seeking professional help when they have emotional problems, thus trying to alleviate them instead by consuming alcoholic beverages or drugs.

6. Conclusions

Social roles traditionally attributed to women and men are relevant in gender differences as far as health and well-being are concerned. Although there is empirical evidence that women and men are similar in most psychological traits [75], the majority of societies consider they are different and should fulfill different roles, so they are socialized differentially. Moreover, gender is a social structure that restricts people, and assigns differentiated roles and positions. Besides, women and men show a high intra-group variability, and there exist significant and complex, yet not well-known, interactions between gender and other variables. It is necessary first to improve men's and women's social conditions and achieve gender equality so as to better their health and quality of life. In addition, it should be necessary that research combined the social and biological sources of differences in women's and men's health.

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