

# Gender Identity as a Trait to Measure in Questionnaires



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## Abstract

The fact of measuring a reality implies we already and a priori have a frame where to describe and quantify that reality. We can measure temperature in units of Celsius or Fahrenheit scales because someone previously described the temperature as the velocity of particles in friction along a spectrum from 0 to 100 (Celsius), resulting the heating in an increase of the average translational kinetic energy of the molecules. Variables are described and localized making possible to build and to apply tools for measuring. However, masculine and feminine scales might not have such clearly framed descriptions, despite the fact gender is one of the most relevant characteristics of our identities. Important cultural and social differentiation do exist over those concepts, adding the History and specific modifications for time periods over those concepts or variables. In this short revision we will analyze and discuss some of the questionnaires currently used for measuring gender and we would try to glimpse some new perspectives.

**Keywords:** Gender Differences; Gender; Sex Differences; Gender Roles; Questionnaires; Masculine; Feminine; Quantification; Operational Definition; Frame.

## Definition

Gender identity is one of the most important characteristics of our mammals' personalities and it is established during early development in the womb. Contrary to the ancient Behaviorism concept of gender, as a "tabula rasa" or blank page to be written and/or filled specifically in different cultures and historical moments, gender is previously organized in the child brain through the action of steroids in different time windows or state developments [1,2]. Some brain nuclei have shown clear sex differences at every stage of human development since early appearance (INAH1 or SDN-POA by [3]). As a metaphor of a computer, gender might be like a "hard-drive" we all have per defect with a series of specific and characteristic programs with certain functions and chances of implementations for an accurate processing and understanding of the outside world information. Questionnaires used to measure gender characteristic might be built and designed to measure «hard and soft wares» of the gender, or that is the organizational and activational characteristics of our brains during sexual differentiation in a lifespan. For those goals and clinical perspectives, the Neuroanatomy studies of the brain for gender identity are of crucial relevance.

## Introduction

Masculinity and femininity have been understood as opposite ends of a unidimensional continuum (Figure 1). For instance, in year 1940 the original Masculinity-Femininity Scale of Minnesota Multiphasic Personality Inventory (MMPI) was designed with true or false responses (0, 1) for high in masculine variables (i.e. self-confidence, goal persistence, low anxiety) versus high in femininity scale (i.e. loyalty, trustworthiness and conflict avoidance) [4]. Later on, in America during the 70's, traditional questionnaires were elaborated considering gender as in an orthogonal dimension and they included a scale of social desirability with positives and negatives adjectives, which were clearly linked to specific moral values. Four gender orthogonal categories were defined with that questionnaire: I) masculine gender-type, II) feminine gender-type, III) androgynous gender-type, that combines both masculine and feminine traits and IV) undifferentiated for describing people with high and low scores in both masculine and feminine traits respectively [5]. Recently in time those orthogonal concepts close to the meaning of former androgyny, have been raised again, such as intermediate

or mosaics substantives [6,7] trying to describe the mammalian brains.



**Figure 1:** Pictorial and artistic representation of Adam and Eve in different Historical periods. A) Painting from 4th Century in a cemetery, author anonymous. The rigid posture of figures is the main characteristic of this dichotomy painting. B) Painting made by Albrecht Dürer in 1507. Separately the woman and the man, without any ornament or distraction, their anatomies are described in detail (hair, hand, posture). C) Adam and Eve made by Edvard Munch in 1909. It represents a modern couple, dressed in a contemporary style and talking in a green garden with a relax posture. These three pictures of centuries IV, XVI and XX are pointing out how the masculine and feminine concepts might be different in different time periods.

Some recent questionnaires or tests in this century about gender are focused on the social treatments for different genders or categories (as they define gender role) and the emotions those might cause on people. Feelings of having specific body or secondary sexual characteristics for each gender body are quantified giving a number in a scale to the discomfort caused by those secondary characteristics. Interestingly some features related to gender identity are closely overlapped with another questionnaires or tests which are measuring different but related traits or dysphoria's, such as self-esteem or Body Identity Integrity Disorder (BIID). In this short revision we are discussing those measurements and briefly commenting their coincidences.

### Gender Identity in Questionnaires

#### Bem Sex Role Inventory

Psychologist Sandra Bem was concerned about the precise definition of gender roles for an accurate and unbiased measurement. She suggested the androgyny as the healthiest mental option to be released of the dichotomy stereotypes or archetypes about gender roles and in 1974 she designed her questionnaire Bem Sex Role inventory (BSRI) that has been widely applied all around the world. Years later it has been proved the tendency to androgyny as a goal is linked to a positive attitude toward sexuality [8]. It was shown that in men, having a clear masculine gender role is associated with worse physical health and in women

high feminine gender role to a worse mental health, suggesting that gender roles have an effect on health that is independent of biological sex and their extremes are not good for Medical nor Psychological health [9]. It was noticed that Gender Dysphoria is not associated to a higher grade of androgyny in this questionnaire, nor for Female to Male (FtM), nor for Male to Female (MtF) transsexuals, compared to their cisgender siblings [4].

That questionnaire BSRI was a step further in the consideration of gender as congruent or incongruent feelings, but it opened the options to a third possibility, where roles were not so framed and closed socially defined, but instead gender might be defined according to different circumstances. It was originally built with three sets of concepts: those related to masculine and feminine gender type (20 and 20) and another 20 items about social desirability. People who score high in both, masculine and feminine are considered androgynous, and those who score low in both masculinity and femininity are considered as undifferentiated. However, some adjectives in the original BSRI are impregnated with a clear negative valence or a pejorative meaning, such as yielding (2), theatrical (12), unpredictable (18), eager to soothe hurt feelings (35), aggressive (46), gullible (47), inefficient (48), does not use harsh language (53), unsystematic (54). Contrary to logic of genders as an orthogonal concept in balance, four of those unfavorable adjectives are in the feminine scale, another four unfavorable definitions are in the neutral (social desirability) scale, while in the masculine scale only one adjective is having a negative valence.

#### Personal Attributes Questionnaire (PAQ) and Specialized Tests

The questionnaire PAQ [10], also was originally based on the idea that masculinity and femininity do coexist at certain point in the same individual [11]. But PAQ it is also measuring negative adjectives with undesirable considerations in its extremes for instance: passive vs active (6), rough vs gentle (8), goes to pieces under pressure vs stands up well under pressure (24). Curiously the items were classified in two columns: instrumentality (masculinity) and expressivity (femininity), perhaps pointing out how the authors of this questionnaire are interpreting social relationships to build gender roles: expressing feelings to others in women or using the others as instruments in men. In the Center of Expertise on Gender Dysphoria at the VU University Medical Center are specialized in designing tests about gender role for Gender Identity Disorder. elaborated after years of clinical experience with patients all around the world. Those questionnaires have been focus on clear and practical items: 1) life sense or meaning, self-esteem and happiness as being a man or a woman, 2) the fact of being hurt by other people through their languages for gender social treatment as a man or woman, 3) the future perspective of their own gender; 4) the grade or intensity of discomfort with a) secondary sexual characteristics, b) with specific gender role behaviors such as urination postures or c) with uncontrollable instincts or facts such as periodic menstruation, or

masculine delator erections (VU Medisch Centrum –Zorgcentrum Gender; Amsterdam 2012). Own self-perception as a man or woman is considered for measurements, but also the treatment of other people in society and the time scale are included, following the research results on Neuroanatomy and making these set of questionnaires of good value for the Gender Identity Dysphoria treatment all around the world.

## Self-Esteem and Body Identity Integrity Disorder (BIID) Questionnaires

Self-esteem inventories are also built with certain coincidences with the gender definition. For instance, the Coopersmith self-esteem inventory have some of their items that might be related to gender identity, such as: “I often wish I were someone else (3)”. “There are lots of things about myself I’d change if I could (9)”. “I really don’t like being a man/woman (37)” [12]. This is remarkable to consider, because esteem conform, and gender identity are so closely related. But self-esteem questions are not very often found in GID questionnaires. On the other hand, the Body Integrity Identity Disorder (BIID) is related to identity but not with gender, having some common points (19% of cases overlapped in diagnosis having both BIID and GID) (for revision see [13]. A questionnaire made to quantify the BIID is mainly based on the significantly distress or impairment in social or other functional areas caused by the thoughts in the disease. For Gender Identity disorder, also a persistent discomfort by the thoughts with one’s sex identity that cause distress have been described [13]. Questionnaire items for BIID are aimed to measure

- i. The amount of time occupied by dysfunctional thoughts or activities related to body defect.
- ii. Frequency on how those thoughts or activities are interfering in social functioning.
- iii. Intensity in resistance of the affected person against or to control those thoughts or compulsions [14]. Those three dimensions, duration, frequency and intensity might be also included for GID questionnaires, because they give meaning and clarity to the operational definition of the dysphoria.

## Further Perspectives

Gender questionnaires designed many years ago are used nowadays, sometimes with no clear categories for clinical diagnoses of serious issues such as Gender dysphoria. Gender is a clinical question for GID patients and not only a basic concept to describe in relation to the sense of life. After this short revision, we would suggest including some variables in new questionnaires to be designed and validated. For instance, I) the variable time, how the person is identifying him/herself with one gender through time and lifespan, for activities, roles, jobs, social relationships, intimate relationships, friends, etc. II) The variable of subjective thoughts or activities related to gender might also be

quantified in its dimensions of frequency, intensity and duration, to increase the information about the discomfort, if any, with the gender given, for clinical improvements. III) Also, the variable of feelings or considerations for objective social treatment (language, convictions of being treated as a man or a woman) might be giving important information about the adaptability of the person. IV) Fourthly the adjectives used for describing any gender in questionnaires or tests might not be pejorative or having a negative valency. V) Lastly but not least, organizational and activational variables (“hard and soft wares”) related to gender might be differentiated in questionnaires and tests.

## Conclusion

Gender categories have been an interesting topic to discuss since Philosophy, from Plato and his androgyny theory of genders as two pieces of the same and complete human being. Many speculative reasoning and arguments have been accepted for many years. However, for patients with Gender Dysphoria, those definitions might have a clinical side, which really need accuracy and precision in the definition for a clear and better diagnosis and treatment. That urgency requires an operational redefinition of genders in XXI century. Here in this short revision we provide some clues to make new questionnaires and tests to apply in control and gender dysphoria population to add information for proper treatment and clinical care to persons.

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