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THE GENDER TOOLBOX: RECOMMENDATIONS FOR HEALTH RESEARCHERS

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Introduction

The inclusion of both men/males and women/females as study participants/subjects in health research is a prerequisite for good research practice (1). Such inclusion is crucial to understand humans' variability, which is not possible when only male or only female subjects are studied (2). For analysis, the standard variable female/male, largely used in quantitative health research, is a first step towards inclusion, because it enables exploring variability between the two large categories of women and men. Its use is however often suboptimal for several reasons:

- It is a proxy of potentially different elements such as sex-related biological factors (hormone levels and function, chromosomes, gene expression, reproductive/sexual anatomy) and gendered sociological phenomena (socially constructed roles, behaviors, expressions and identities of girls, women, boys, men, and gender diverse people), and is thus not specific
- It contributes to the widespread confusion around the gender and sex concepts in health research , that tends to focus on sex-related biological explanations for observed differences in women's and men's health
- It excludes certain populations that do not fit into the female or male categories, such as intersex or gender diverse people

In order to support researchers conduct sex/gender analyses as required by some funding programs such as EU Horizon 2000, we developed this toolbox to guide the inclusion of sex/gender in terms of conceptualization and potential indicators to consider. Two sections therefore constitute this working document: a **theoretical framework** linking gender and health; and a **list of indicators** derived from it, to consider before conducting (gender/sex-related) health research. We begin by presenting some questions to address, to guide researchers in identifying relevant sex and gender hypotheses and identify measurement needs.

A priori hypotheses and detailed questions

For reliable and useful measures, the effects of sex/gender on the investigated health topic have to be anticipated. Before starting any study, researchers need to ask themselves this fundamental question:

Are gender and/or sex relevant to my research topic?

We recommend formulating hypotheses responding to the questions:

1. What aspect(s) of sex to consider in this specific research?
    - Which biological factor(s) (hormonal levels, gene expression, etc.) may have an effect on the outcome or relationships of interest? Specifying which aspect(s) is (are) at play will enable measuring the right factor(s).
2. What dimension(s)/components of gender to consider and through which pathways could it (they) influence the studied health exposure or outcome?
    - The theoretical framework below gives insight on the different dimensions of gender, and the potential pathways that lead to gender differences in health. Looking into these theoretical aspects and concrete examples supports identifying which measures of gender to include in the research;

➢ **Table 1** is a support-tool that provides a comprehensive list of hypotheses linking gender and health. It guides selecting potential gender-related indicators in existing databases.

Once the hypotheses are set, we then suggest choosing the corresponding potential indicators to include as sex/gender measures.

➢ **Table 2** provides questions to include in a questionnaire for each potential indicator identified in Table 1.

Theoretical framework

Gender as a social structure

Gender is a system that structures life experiences differently for women, gender diverse people and men, producing inequalities in several domains. The gender-system is made as a set of social processes – and not a biological distinction –, something that members of a social group collaboratively produce, reproduce and enforce, namely through socialization practices and based on social norms. The gender-system is characterized by two principles: the dichotomization of the female and male categories (*differentiation*), and the valuation of men and masculinity and all that is associated with them to the detriment of women and femininity (*hierarchy*). By creating categories of people that are hierarchized, the gender system unequally distributes resources and opportunities, and differently shapes attitudes and behaviors of people. As conceptualized by Risman (3), the gender-system has thus consequences on three dimensions:

1. The individual dimension (at the micro level): where gender is an internal sense of self-identity, and a way to present oneself to others–through behaviors, manners and appearance (ie. gender expression).
2. The interactional dimension (at the meso level): women and men face different cultural expectations (based on gender stereotypes and prejudices), which constrain their choices and actions in several social-relational settings such as the workplace or the family (4). For example, women and men, even in a similar social position, are expected different behaviors: the socially expected “good parenting norms” are different for mothers and for fathers.
3. The institutional dimension (at the macro level): there are gender-specific norms, regulations, laws and organizational practices regarding material goods and resources distribution – as most institutions are not gender-neutral.

Aligned with the approaches preconized for the social determinants of health, the different levels through which the gender-system operates should be considered and not reduced to its individual dimension as a dimension that individuals can fully act upon, for example by changing their gendered unhealthy behavior. Gender identity is intrinsically linked to gender relations and gender norms. Therefore, when conceptualizing gender in a health research, hypotheses on how gender affects a health outcome or process should be sought for each dimension, ideally. Concrete examples are provided in Table 1.

The five pathways linking gender and health: theory and examples

The gender system structures the health of individuals through diverse mechanisms. Heise et al. (5) developed five exhaustive pathways linking gender and health:

1. Gendered health behaviors:
   - Values and expectations associated to mainstream masculine/feminine identity and behaviors may affect health: e.g. men are more prone to take risks, women to develop eating disorders
   - Individuals not fitting gender norms may experience exclusion and engage in risky behaviors
2. Gendered impacts on accessing care:
   - Masculine norms may affect men’s ability to seek care
   - Feminine norms may lead women to prioritize the needs of family members before their own
   - Individuals not meeting gender norms may not seek care to avoid stigma or discrimination
3. Gender differences in exposure to health risks and hazards:
   - Occupational gender segregation, that typically defines “female jobs” (e.g. nurse) and “male jobs” (e.g. engineer) may lead to differentials in exposure to disease, disability and injury
   - Sexual division of labour that hierarchizes the type and mode of work, by setting a low value to domestic and care work or to part-time employment, have health-related consequences
   - Gender-based violence against sexual and gender minorities, and women: homophobia, transphobia, sexual/physical/emotional/economic violence, sexual harassment have consequences on health, and on mortality
4. Gender-biased health-care systems:
   - Gender-biased knowledge : for example, the belief that women are less likely to suffer from cardiovascular diseases

- Gender-biased clinical management: for example, the over diagnosis of psychosomatic causes in women and minimization in men

5. Gender-biased research, institutions and data collection:
    - Androcentrism in medicine (i.e. to consider that what is observed in men can be extrapolated to all humans) can bias research by affecting: (i) how research is funded (not consider inclusion of female subjects as a prerequisite for funding); (2) how research is conducted (with an overrepresentation of males as researchers and subjects, and excluding a sex/gender perspective); and (iii) how recommendations are applied.

Further methodological considerations

Gender – as a multidimensional, dynamic and complex concept – does not operate in a vacuum, but is embedded in other forms of social organization, also based on principles of differentiation and hierarchy, that further influence health outcomes and processes. The categories of women and men are not homogenous; they present diversity in age, class, ethnicity, sexual orientation, etc. The **intersectional perspective** aims to consider the multiple determinants of health that structure pathways to (poor) health, in conjunction one from another. We strongly recommend including an intersectional perspective to better understand the complexity of how gendered pathways are framed.

Annex Tables: Gender indicators, underlying hypothesis and derived questions

Both the consideration of the different levels through which the gender operates, and the five gendered pathways to health, help identifying gender-related core concepts or phenomena. Those are helpful to state a priori detailed hypothesis linking gender and health. The first table below **(Table 1)** proposes a set of potential indicators that link gender to health outcomes or processes, within the 3 dimensions of gender, and the related underlying hypotheses. The stated hypotheses should be used to derive gender-related questions to integrate as a proxy for the correspondent phenomena/concept. **Table 2** provides questions to collect the potential indicators.

Survey: questions and methods[1]

The language used for questions and survey methods must be adapted to the demographic characteristics of the population being surveyed. Age, language skills or education level are important factors to consider when phrasing questions – e.g. choice in using *FALC* language (*facile à lire et à comprendre* – easy to read and to understand) or the choice of words and explanations – and in the methodologic choice – e.g. a written questionnaire, or an oral one, with an interviewer. Survey instrument should be pre-tested on a subsample of the surveyed population, to ensure that questions are understood as conceptualized by the research team.

The theoretical considerations developed in this working document as well as the reflection process – from the gendered pathways to health to gender-related core concepts to a set of potential indicators – are schematized in **Figure 1** (next page). The three levels of the gender-system are presented – individual, interactional and institutional – as deeply interwoven, as they are mutually affecting each other. The five pathways are linked to specific dimension(s) of the gender system. For example, gendered health behaviors are linked to the individual dimension, as behaviors take place at the level of the individual.

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[1] Tiré de la brochure de Promotion Santé Suisse intitulée « *Comment recueillons-nous des informations sur le sexe, le passé migratoire et le statut socio-économique? Approches méthodologiques de l'évaluation de l'impact sur les groupes cibles.* » - Disponible à Document_de_travail_059_PSCH_2021_11_-_Evaluation_des_groupes_cibles.pdf (gesundheitsfoerderung.ch)

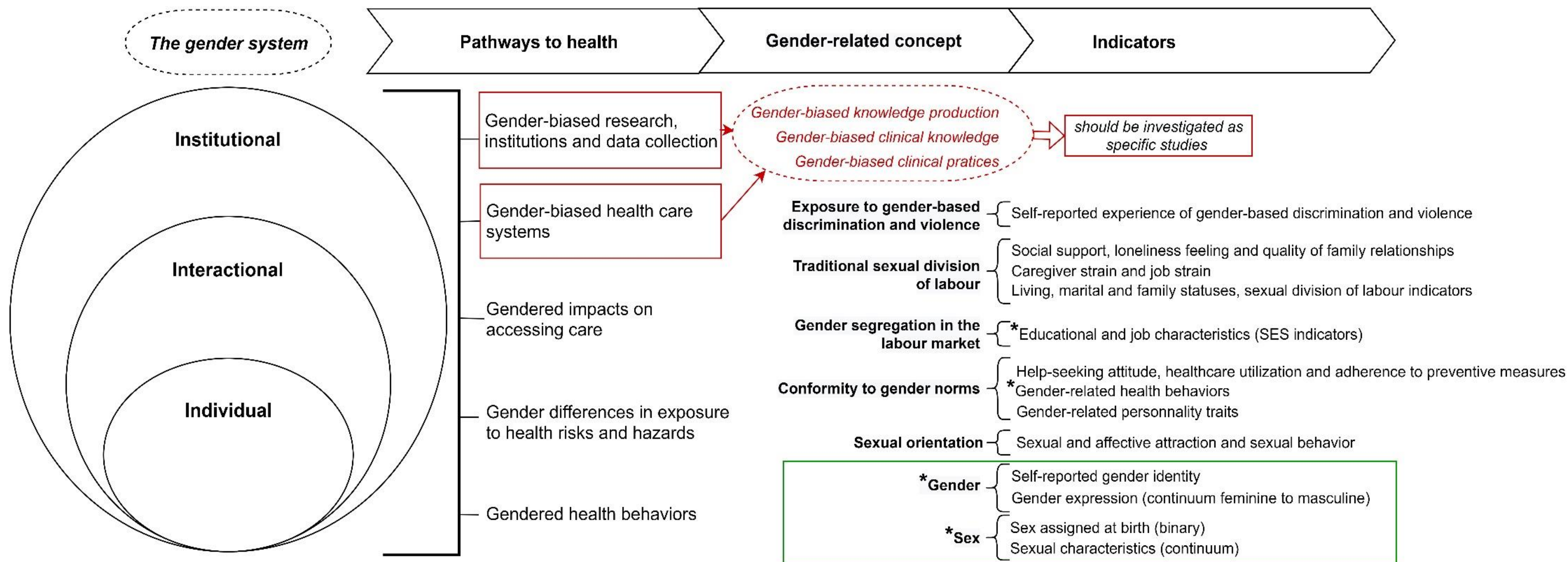

Figure 1 **Theoretical framework: examples of gender-related indicators derived from the pathways linking gender and health**

Guiding use of this figure

The green box containing gender and sex outline that these concepts have to be understood separately one from another and thus proxied through different indicators. The conjunction of these indicators could help construct a binary indicator for "gender-normativity", for individuals, whose gender identity and expression match their assigned sex at birth. Doing so gives visibility to minority groups. It also allows refining the women and men categories.

The red boxes outline pathways to health on the institutional level, which refers to societal norms, conditions, practices, laws and policies. This level cannot be captured through survey questions. Thus, gender-biased knowledge production, clinical knowledge and clinical practices should be investigated as specific studies.

Indicators with an asterisk (*) should be integrated whenever gender is hypothesized as relevant, and should be integrated whatever the research question

Table 1. Potential indicators and underlying hypotheses

LEVEL	GENDER-RELATED CONCEPT	POTENTIAL INDICATORS	HYPOTHESES UNDERLYING GENDERED PATHWAYS TO HEALTH
Individual	**Sex**	**Sex assigned at birth** – female, male, or other (if relevant under current law)	These can be used as a proxy for sex, considered as a biological variable. Sex assigned at birth (or the "administrative sex") can be used as a clear distinction from gender identity (as the internalized sense of self).
		Sexual characteristics – ideally through biomedical measures of sex-related relevant characteristics	Sexual characteristics should be considered on a univariate spectrum representing the variations of sexual development that define the female and male categories. This could help identifying people with variation in sexual development (often referred to as intersex individuals). Biomedical measures of sex-related relevant characteristics (e.g. chromosomes, hormonal levels), thought to be related to the outcome of interest, could be considered as a more accurate proxy for biological sex.
	Gender	**Self-reported gender identity** – woman, man, trans woman, trans man, agender, questioning, non-binary, etc.	As a whole, the consideration of the multidimensional gender identity concept, captured through several indicators (gender identity and gender expression), permits to refine the standard heterogeneous women and men categories. It also allows capturing deviations from the normative prescriptions *female-cisgender-feminine* and *male-cisgender-masculine*. Those indicators are hypothesized to capture stigma affecting health through; discrimination in health care settings, interpersonal violence risks, social and economic exclusion, etc. Gender minorities that are visibly gender non-conforming are especially at risk of experiencing stigma and adverse health consequences. The consideration of gender expression alone – that is, how people behave and present themselves to others, which can be used as a proxy for gender socialization (how individuals are taught to socially behave in accordance with their sex assigned at birth – is hypothesized to affect gender-related health behaviors. For example, people having a rather masculine expression are expected to be more likely to adhere to hegemonic masculinity, and develop risk-taking behaviors harmful to health.
		Gender expression (the way people express their gender identity, through their behavior, manner and appearance) – *can be considered on a continuum from feminine to masculine*	
	Sexual orientation	**Sexual orientation** – should be considered a multidimensional phenomenon	Sexual orientation is a multidimensional phenomenon that can be captured through three different indicators; self-reported orientation, sexual and affective attraction and sexual behavior. Indicators of sexual orientation are important determinants of sexual and reproductive health, and should be integrated if the outcome is related to one of these topics.

	Conformity to gender norms	**Gender-related personality traits**	Some personality traits are culturally associated to masculinity, such as being independent, active, competitive, self-confident, and are often referred to as *agentic* traits. Those are generally associated with risk taking behaviors, and people identified as males are thus more likely to develop risk taking behaviors, and lower adherence to treatment. Other traits are associated to femininity, such as being communal (orientation toward others, their needs and wellbeing), which can limit the fulfilling of their own needs. Gendered personality traits could be considered as a refined measure of gender expression.
		Attitude toward gender norms	Attitudes toward gender norms – such as those that promote controlling behaviors of men over women, and withdrawal attitude of women – were found to have diverse adverse effects on health (6). These norms of over control from men and under control of women may, for example, promote intimate partner violence and sexual violence as well as sexual risk behaviors of men, and lower bargaining power in condom use negotiation from women.
		Gender-related health behaviors: - Diet - Physical activity - Risky behaviors - Etc.	Traditional masculine norms and the social construction of what "real men" should be and do, foster health-related risks for men, such as speeding, substance use, multiple sexual partners, less condom use, and with poor health-seeking behaviors. Feminine social norms induce that women are more likely subject to unhealthy weight control behaviors, to achieve an ideal female body, and less likely to practice physical activities, to keep a feminine appearance and act accordingly. They are also more likely to adhere to preventive and health-promoting behavior than men are. To note that adherence to normative gender norms of femininity and masculinity is strongly related to the social position of individuals (education, ethnicity, age, sexual orientation, social class, etc.) – highlighting the necessity to adopt an intersectional approach. Gender differences on diverse health-related behaviors are well documented, for Switzerland see (7).
		Help-seeking attitudes, healthcare utilization and adherence to preventive measures	Healthcare utilization is globally lower for men, as help-seeking behaviors may be hampered by a lower emotional vocabulary in men which is maladaptive in therapeutic contexts (8). Help-seeking attitudes globally enters into confrontation with hegemonic masculinities associated values such as independence, and the denial of weakness and vulnerability. To note that indicators of help-seeking attitudes and healthcare utilization may be more direct measures of gender in relation to health than indicators of gender-related personality traits and attitude toward gender norms.
		Gender-specific use of beauty products	In order to conform to beauty standards and try reaching female and male ideal bodies, women are more likely to use beauty products than men do and thus be exposed to harmful chemicals (9) and me

			n may be more prone to use steroids for increasing masculine valorized aspects such as muscle mass or apparent strength (10).
Interactional	**Gender segregation in the labour market**	**Job characteristics : occupation, responsibility level, activity rate, level of education and income –** and more globally: indicators of the socioeconomic status (SES), measured at three levels (individual, household (see sexual division of labour), and neighborhood) and at different points in the lifespan	Women are more likely to work part time, which limits their access to wealth, work-related web of resources and access to power. Female specific jobs are globally less valued and remunerated than male typical jobs (e.g. the nurse vs. the engineer). In addition, women often face discrimination from employers in hiring and promotion, contributing to the occupational segregation and resulting in the gender wage gap, gender pension gap, etc. These restrictions in access to resources and symbolic and economic power leads to higher number of stressors, poorer lifestyle, and impact the psychological and physical health of women (see general literature on the link between SES and health). In addition, the type of job performed and responsibility level expose to diverse adverse health consequences explained by differences in exposure and in working conditions. Men of lower or middle SES are more likely to work in high-risk industries (such as construction or farming) and thus face injuries (11), while women are more likely to work in the service sector and to face more chronic musculoskeletal conditions, anxiety and depression in their job (12). Sexual and gender minorities are more vulnerable to conditions of poverty than heterosexual people due to social and economic exclusion, which is are major factors leading to poor health.
	Traditional sexual division of labour	**Living arrangements, marital and family statuses, and the sexual division in heterosexual households of paid and unpaid work** (work-family spillover, including caregiving burden (13)) – *individual and household level indicators*	Household typology captured through living, marital and family statuses (living alone, with partner, married, living with/out child·ren, etc.) and living arrangements (involvement in housework chores, in child education, in type of housework etc.) are potential indicators for higher number of stressors, negatively affecting health, especially women's. A current example is the Covid-19 Pandemic that exacerbates gender inequalities related to health (14): a more marked sexual division of labour was observed, with an increase of family demands due to the closing of childcare structures and schools. This especially affected the psychological health of women and their self-care (15). It also lead to higher domestic violence. It mobilized the health-systems, whose majority of workers are women, leading to higher risk of exposure to the virus and to burnout (16). Finally, the service sector, whose majority of workforce are women, was heavily economically affected by the crisis. Also, the sexual division of domestic work – fact that men and women tend to specialize in sex-specific housework (routine and repetitive work for women (laundry, cleaning, etc) and non-routine for men (17)) – induce gender-specific exposures to a wide range of hazard: for example women are more exposed to cleansing agents than men; while men are more likely to face domestic injuries due to male

			specific house chores such as lawn mowing or the use of a drill. To note that transition into parenthood induce a more marked sexual division of labour toward traditional gender roles. Women often experience a caregiving and nurturing role for the household and family members (the children, the sick, the elderly, the husband/partner, etc.), which may have various related health consequences (18); such as higher level of stress, depression, physical pain, social isolation, work interference, etc. (19).
		Housework strain and job strain – feeling of physical or emotional exhaustion due to housework and work	The still persistent sexual division of labour within heterosexual couples and the increasing labour force participation of women since the 1980' induce that women may experience a double burden of nurturer and provider (20). The still normative prescription of men to be successful at work, deriving from the breadwinner role, may induce health negative impact for their health. Although, as male values dominate contemporary work culture, women must adapt and may experience increased emotional labour as consequence (21). To note that specific perceived feeling of housework strain and job strain may be more direct measures of gender in relation to health than indicators of sexual division of labour.
		Social support and loneliness feeling	Those having less social support and experiencing loneliness are found to experience poorer health, because they tend to have a thinner web of resources, (family, work, friend, and diverse local community). The caring and supporting role women often experience in their relationships may offer them a wider social support network (20), while men have more limited social supports. Moreover, they men an apparent lower capacity to mobilize social supports when needed (11). The caregiving role women often endorse may benefits the male partner, as the presence of support from a female romantic partner enhances the likelihood that men will initiate and engage in health and safety practices *(11)*.
	Exposure to gender based-discrimination and violence	**Experience of gender-based discrimination and violence**, in various settings – public spaces, at work, in healthcare settings, etc.	Experience of gender-based discrimination are acknowledged to have various adverse physical and psychological consequences on victims (in particular through increase in stress and anxiety), whose dominant and thus protected group are educated heterosexual withe men. In addition, experience of discrimination may also be internalized by victims resulting in adoption of risky behaviors. Due to power asymmetry, women and young girls are more likely to experience various forms of violence than men, such as sexual violence, harassment, feminicide, etc. (22). When they are not lethal, they have physical and emotional consequences that affect health.

			Gender diverse people and sexual minorities are especially at risk to face discrimination as well as violence in various settings.
Institutional	**Gender-specific marketing of harmful commodities**		Digital and traditional marketing uses gendered marketing practices by associating their product with feminine or masculine attributes to specifically target populations based on gender norms and stereotypes. For example, the tobacco industry promoted smoking as a way to demonstrate one's femininity for women (e.g. freedom, sexiness) and a way to demonstrate one's masculinity for men (e.g. rebelliousness) (23).
	Gender-biased clinical practices		Structural measures should be considered by using administrative data to estimate how state-level measures of gender inequality (such as the gender-wage gap or the lack of affordable childcare places) relate to population health (4). We could also create medical-specific indicators on the representativeness of women inclusion in medical research or in clinical trials, or measures on the gender-biased medical education in academic curriculum.
	Gender-biased clinical knowledge		
	Global gender inequalities indirectly affecting health		Using diverse source of data, creating for example, a gender-index on inequalities in health in a given country, for example see the European Union Gender Equality Index 2021 – (will) focus on health or Healthcare equality index for LGBTQ population

Table 2. Potential indicators and derived proposed questions

CONCEPT	POTENTIAL INDICATORS	QUESTIONS	REFERENCE WORK, COMMENTS
Sex	Sex assigned at birth	À quel sexe vous a-t-on assigné à la naissance, c'est-à-dire ce qui figure sur votre acte de naissance ? – Femme, Homme	There is still no consensus on how to ask about one's sex attributes and gender identity, we propose these questions (in French) based on current best practices/theories from our point of view. Questions on gender may be compiled as a single measure, for example as a gender-normativity measure. It allows to refine the measure of gender, but not only focusing on self-reported gender identity. In addition, we think that gender expression alone may be taken as a proxy for adherence to gender norms for cisgender[2] individuals and to gender non-conformity. Questions on sex, gender identity and gender expression are inspired from the work of Bize et al. (2018) (24) and Reisner et al. (2014) (25). Questions on sexual orientation derived from the study of Barrense-Diaz et al. (2018) (26). Questions on sexual orientation can be combined in a measure for exclusively and non-exclusively heterosexuality, for more details see (26). Personal information on sex and gender identities, especially on sexual orientation, are sensitive data, and respondents may be reluctant to answer –
	Sexual characteristics	Avez-vous été diagnostiqué·e en tant que personne présentant des variations du développement sexuel (parfois appelée « personne intersexe ») ? – Oui, Non OU : Sur une échelle représentant les variations du développement sexuel, définissant les catégories mâle et femelle, où vous situez-vous ? Mâle Femelle ☐ ☐ ☐ ☐ ☐ ☐ ☐	
Gender	Self-reported gender identity	Laquelle des affirmations suivantes vous correspond le mieux ? – Femme, Homme, Femme transgenre, Homme transgenre, Autre (agenre, genre fluide, non-binaire, en questionnement/ pas sûr(e), etc.) – Si Autre, merci de spécifier (champs libre)	
	Gender expression	Sur une échelle représentant les variations de l'expression de genre (c'est-à-dire la façon dont un individu se comporte et s'habille), définissant les catégories féminine, masculine, et androgyne (autant féminin que masculin) ou neutre (en dehors du système binaire), où vous situez-vous? - Masculine Neutre / Androgyne Féminine ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
	Sexual orientation	<u>Self-reported:</u> Laquelle des affirmations suivantes vous correspond le mieux ? – Hétérosexuel·le, Bisexuel·le, Lesbienne/Gay, Je ne sais pas/Je ne suis pas sûr·e, Je ne souhaite pas répondre, Autre (merci de spécifier)	

[2] Cisgender design the gender identity of persons whose sex assigned at birth match with their internal sense of gender (female/woman and male/man). For more information on sexual and gender diversity see.

		Affective/sexual attraction : Laquelle des affirmations suivantes vous correspond le mieux ? Je suis – Uniquement attiré par les personnes du sexe opposé à Uniquement par les personnes de même sexe (échelle sur 5 – Uniquement, Plutôt, Autant) – avec possibilités additionnelles : Je ne suis attiré·e par personne (asexuel·le) et Le genre de la personne ne m'importe pas. Sexual behavior : Au cours de votre vie sexuelle, quel était le sexe de votre/vos partenaire(s) concernant divers actes sexuels (contacts sexuels, sexe oral, manuel, vaginal ou anal) – Mes partenaires étaient : Exclusivement de sexe opposé à Exclusivement du même sexe (échelle sur 5 – Exclusivement, Principalement, Autant) avec possibilité additionnelles – Je n'ai jamais eu de partenaire sexuel	here is some advice: - If possible, introduce why you need these information and how they are important to answer your research question - Offer the possibility not to answer sensitive questions – offering the possibility "I do not wish to answer"
Adherence to gender norms	Gender-related personality traits	1. Competitive - How often do you find yourself competing with others in situations that do not call for competition? - How competitive are you compared to others? 2. Risk-taking - In general, how prepared are you to take risks? - How prepared are you to take risks when making financial decisions? - How prepared are you to take risks when it comes to recreational activities? 3. Independence - How important is it for you to be independent? - When you are in need, how often do you turn to others for help? - How important is it for you to solve your problems on your own? 4. Communal - How often do you worry about what other people think about you? - When making an important decision in your personal life, how often do you take other people's needs into account? - How often do friends talk to you about their problems? - How easy is it for you to spot when someone in a group is feeling uncomfortable? 5. Expressive - How often do you talk to your friends about your problems? - How easy is it for you to express what you are feeling to others? - How easy is it for you to understand your own feelings? - When you are in need, how easy is it for you to ask other people for help?	Based on the Stanford Gender-Related Variables for Health Research (GRVH) (27) Core variables for gender-related traits, measured as five composite constructs. Each response items is on a scale from 1 (not at all/never) to 5 (completely/extremely/always)

	Attitude toward gender norms	- It is the man who decides what type of sex to have. - A woman's most important role is to take care of her home and cook for her family. - Men need sex more than women do. - You don't talk about sex, you just do it. - Women who carry condoms on them are "easy." - A man needs other women, even if things with his wife are fine. - There are times when a woman deserves to be beaten. - Changing diapers, giving the kids a bath, and feeding the kids are the mother's responsibility. - It is a woman's responsibility to avoid getting pregnant. - A man should have the final word about decisions in his home. - Men are always ready to have sex. - A woman should tolerate violence in order to keep her family together. - If a woman cheats on a man, it is okay for him to hit her. - If someone insults me, I will defend my reputation, with force if I have to. - I would be outraged if my wife asked me to use a condom. - It is okay for a man to hit his wife if she won't have sex with him. - I would never have a gay friend.	the Gender-Equitable Men (GEM) scale (6), using The inequitable subscale, that was found sometimes more reliable. Answers options from 1 (agree) to 3 (do not agree). To note that this scale has mainly been used in developing countries and may not be adapted in western countries where egalitarian beliefs are more anchored
	Gender-related health behaviors	1. Diet and physical activity 2. Sexual behaviors 3. Substance use 4. Injury and violence 5. Preventive health behaviors	Dimensions of gender-related health behaviors are taken from Fleming et Agnew-Brune (2015) (28) Relative questions have to be developed
	Help-seeking attitude, healthcare utilization and adherence to preventive measures	1. Help-seeking attitude - If I had a mental health concern, I would intend to seek help from a mental health professional. - If I had a mental health concern, I would try to seek help from a mental health professional. - If I had a mental health concern, I would plan to seek help from a mental health professional.	People's intention to seek help from a mental health professional as a proxy for help-seeking behavior, the Mental Help-Seeking Intention Scale (MHSIS) (29) Answer items from 1 (Extremely unlikely/definitely false/ strongly disagree) to 7 Extremely likely/definitely true/strongly agree)

	Gender-specific use of harmful products? (e.g. make-up, etc.)	Specific questions have to be developed	
Gender segregation in the labour market	Job and educational characteristics (ideally in a historical perspective, see for example the *Life Course Calendar (30)*, however less burdening if current)	1. Education • Highest level of education achieved (proposition from compulsory school to university) 2. Occupational classification (e.g. Treiman's prestige scale (31)) • Classification of respondent's current position (or past if currently unemployed) constructed from: profession, activity sector, hierarchical level, and status (e.g. self-employed, employed) 3. Occupational characteristics • Activity rate, income	The Swiss Household Panel (SHP) (32) As the number of questions are vast, only core information that needs to be mentioned in the questions is reported (for detailed questions see) To note that currently unemployed people can take their last job as reference to answer the questions.
Traditional sexual division of labour	Living, marital and family statuses, and the sexual division in heterosexual households of paid and unpaid work	1. Household typology and composition • Relationship to other persons in household, civil status, number of persons and children in household (number of persons and age of each member) 2. Sexual division of unpaid and paid work • Household income • Contribution to the household income; balanced or not and in whose favour • Household contribution for various tasks, with response items being (not exhaustive) – me, my partner, both equally, we have external help: making meals, cleaning/tidying, shopping, washing/ironing, heating/repairs, administration • additionally, if children under 15 living in the household: who take care of them in case of illness, who plays with them, take them to school/kindergarten, help with work	The Swiss Household Panel (SHP) (32) As the number of questions are vast, only core information that should be referred in the questions are reported (for detailed questions see)
	Caregiver strain and job strain	1. Caregiver strain - In the past year, how often did you feel emotionally exhausted because of your caretaking responsibilities? - In the past year, how often did you feel physically exhausted because of your caretaking responsibilities? - In the past year, how often have your caretaking responsibilities caused you to worry about the future? 2. Work strain - How often does your job require working fast?	Based on the Stanford Gender-Related Variables for Health Research (GRVH) (27) Core variables for gender norms using the caregiver and work strain constructs, each response items being on a scale from 1 (never) to 5 (always)

		- How often does your job involve repetitive tasks? - How often do you feel emotionally exhausted from your work activities? - How often do you feel physically exhausted from your work activities? - How often does your job involve risk of harm or injury? - How often does your job involve hazards, such as smoke, heat, noise, or chemicals?	To note that caregiver strain includes long-term caregiving to children, partners, friends, and elderly (excluding housework and caregiving occupations)
	Social support, loneliness feeling and quality of family relationships	- In the past year, how often did you have someone to give you advice? - In the past year, how often did you have someone to show you love and affection? - In the past year, how often did you have someone to help you with daily chores? - In the past year, how often did you feel lonely? - In the past month, how often have you argued with close relatives? - In the past year, how would you describe the quality of your relationship with your close relatives? (from 1 – *terrible*, to 5 – *excellent*)	Based on the Stanford Gender-Related Variables for Health Research (GRVH) (27) Core variables for gender relations using the social support construct, as four items recorded on a five-point-scale from 1 (never) to 5 (always)
Exposure to gender-based discrimination and violence	Experience of gender-based discrimination, in various settings – daily, at work, in healthcare settings, etc. and to gender-based violence	- Because of your gender, how often have you felt discriminated against? - Because of your gender, how often have you felt discriminated against when getting hired? - Because of your gender, how often have you felt discriminated against when at school? - Because of your gender, how often have you felt discriminated against when receiving medical care? - Because of your gender, how often have you felt discriminated against in public settings? - Because of your gender, how often have you felt discriminated against in your family? Gender-based violence: Have you ever experienced the following form of violence? (*to develop* – intimate partner violence, sexual violence, obstetrical violence, emotional violence, physical violence etc.)	Experience of gender-based discrimination are based on the Stanford Gender-Related Variables for Health Research (GRVH) (27) Core variables for gender-related traits, measured as five composite constructs, each response items being on a scale from 1 (never) to 5 (always) Scale measuring gender-based violence should be integrated.

INFORMATION

This document is a work in progress and is therefore subject to change. The most recent version can be found here. If you have any questions, suggestions, or need clarification, please contact us at medgenre@unisante.ch.

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Glossary[c]

Sex: The different biological and physiological characteristics of males and females, such as reproductive organs, chromosomes, hormones, etc.

Gender: Refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society to society and can be changed. The concept of gender includes five important elements: relational, hierarchical, historical, contextual and institutional. While most people are born either male or female, they are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and work places. When individuals or groups do not "fit" established gender norms they often face stigma, discriminatory practices or social exclusion – all of which adversely affect health.

Gender identity: A person's deeply-felt, inherent sense of being a boy, a man, or male; a girl, a woman, or female; or an alternative gender (e.g., genderqueer, gender nonconforming, gender neutral) that may or may not correspond to a person's sex assigned at birth or to a person's primary or secondary sex characteristics. Since gender identity is internal, a person's gender identity is not necessarily visible to others.

Gender norms: Refer to beliefs about women and men, boys and girls that are passed from generation to generation through the process of socialization. They change over time and differ in different cultures and populations. Gender norms lead to inequality if they reinforce: a) mistreatment of one group or sex over the other; b) differences in power and opportunities.

Gender relations: Refers to social relations between and among women and men that are based on gender norms and roles. Gender relations often create to hierarchies between and among groups of men and women that can lead to unequal power relations, disadvantaging one group over another.

Intersectionality[d]: The theory that various forms of discrimination centered on race, gender, class, disability, sexuality, and other forms of identity, do not work independently but interact to produce particularized forms of social oppression. As such, oppression is the result of intersecting forms of exclusionary practices. It is thus suggested that the study of identity-based discrimination needs to identify and take account of these intersectionalities.

Gender-based division of labour: Refers to where, how and under what conditions women and men work (for or without pay) based on gender norms and roles.

Hegemonic masculinity[e]: The mythology of gender dominant within cultural representations of males, reflecting normative behavioural ideals for males in a culture in a particular period (regardless of the actual prevalence of such behaviour in that society). Such representations promote stereotypical masculine heterosexual values. In contemporary Western cultures, masculinity is typically associated with personality traits such as independence and competitiveness, role behaviours such as being the primary provider and initiative-taking, and physical characteristics such as muscularity and a deep voice.

Gender and sexual diversity glossary , updated 2019 version

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[c] If not specified otherwise, definitions come from World Health Organization's glossary of terms

[d] Intersectionality - Oxford Reference

[e] Hegemonic masculinity – Oxford Reference

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