SYMPOSIUM ANNUEL DU CENTRE CÉRÉBROVASCULAIRE CHUV

AVC SEXE ET GENRE: RECHERCHE

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BJA

British Journal of Anaesthesia, 129 (2): 191–199 (2022)

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Critical Care

CRITICAL CARE

Use of tranexamic acid in major trauma: a sex-disaggregated analysis of the Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage (CRASH-2 and CRASH-3) trials and UK trauma registry (Trauma and Audit Research Network) data

Tim Nutbeam[1,5,*], Ian Roberts[2], Lauren Weekes[3,5], Haleema Shakur-Still[2], Amy
Francois-Xavier Ageron[4]

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This article is accompanied by an editorial: Sex discrimination after injury: is inequity in tranexamic acid admin
iceberg? by Cole et al., *Br J Anaesth* 2022:129:144–147, doi: 10.1016/j.bja.2022.05.015

CRASH-2 trial: June 2010
CRASH-3 trial: October 2019

Abstract

Background: Women are less likely than men to receive some emergency treatments. This study e
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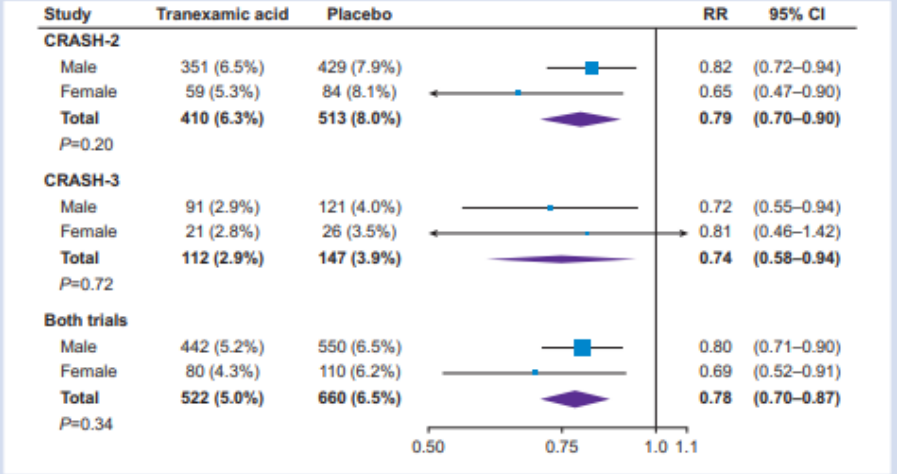

Fig 2. Forest plot demonstrating the effect of tranexamic acid treatment on relative risk (RR) of death from any cause within 24 h of injury, stratified by sex in the CRASH-2, CRASH-3 trials and both trials pooled. CRASH, Clinical Randomisation of an Antifibrinolytic in Significant Haemorrhage; CI, confidence interval.

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UK TARN registry for England and Wales from 2017 to 2020

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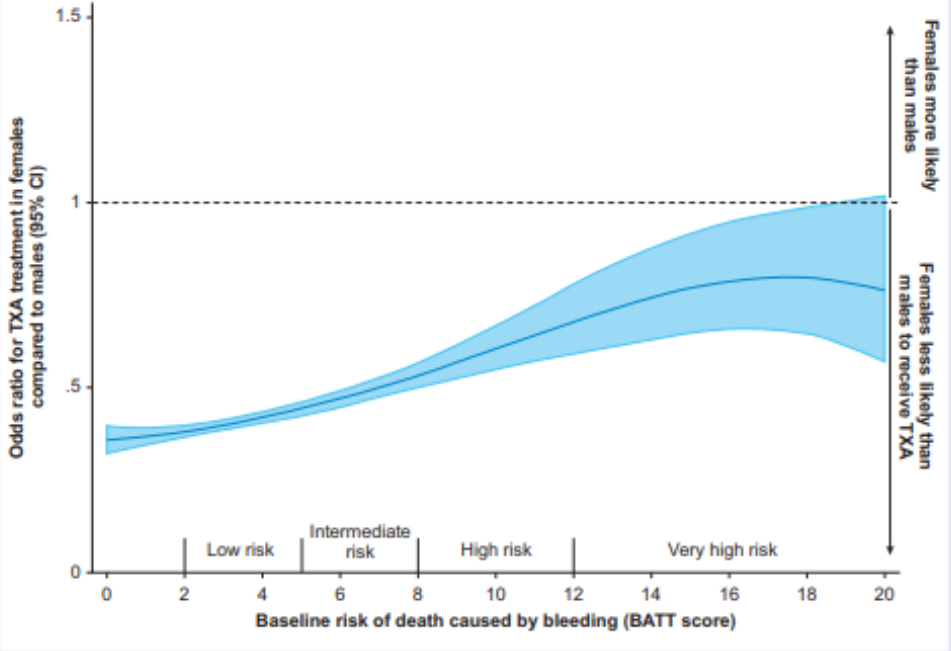

Fig 3. Receipt of tranexamic acid (TXA) treatment in females compared with males by baseline risk of death caused by bleeding adjusted by prehospital time. BATT, Bleeding Audit for Trauma and Triage.

QUEL EST LE PROBLÈME?

- Biais de connaissance
  - Connaissance médicale construite sur un modèle *androcentré*
- Biais dans la clinique
  - Stéréotypes de genre/aveuglement face au genre
- Influence complexe du genre sur la santé
  - Influence de facteurs biologiques ET sociaux

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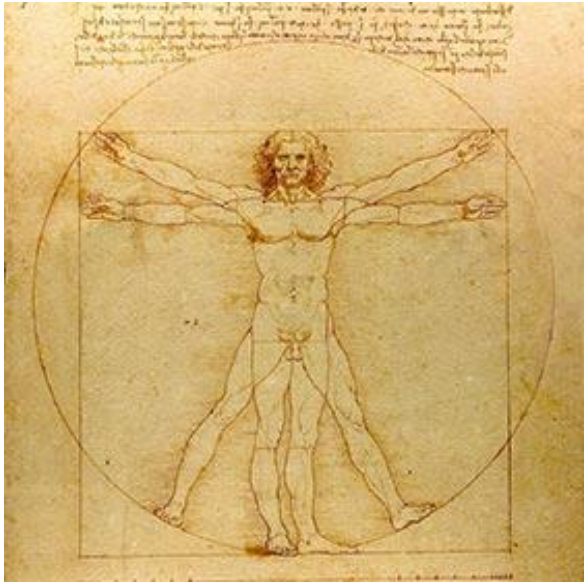
ANDROCENTRISME

Le corps masculin= le corps humain
Standard neutre: blanc, âge moyen, 70 kg

1977: exclusion des femmes de la recherche médicale
(Scandale de la Thalidomide– 1960)



L'Homme de Vitruve (L. De Vinci, 1492): représentation des proportions idéales et parfaites du corps humain inscrit dans un cercle et un carré

XIXTH: PARADIGME NATURALISTE

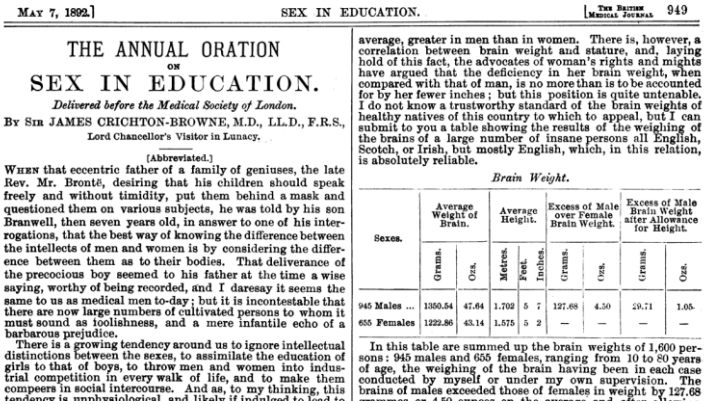
- Classification des populations: biologie utilisée pour construire ‘scientifiquement’ un savoir basé sur les différences entre les femmes et les hommes
- Infériorité “naturelle” légitimée par le discours médical

- **Différentation**
- **Hiérarchisation**

des sexes, de la race

Notion de savoirs situés

Haraway, Donna. “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.” *Feminist Studies* 14, no. 3 (1988)



MAY 7, 1892.] SEX IN EDUCATION. [THE BRITISH MEDICAL JOURNAL 949

THE ANNUAL ORATION ON SEX IN EDUCATION.

Delivered before the Medical Society of London.

BY SIR JAMES CRICHTON-BROWNE, M.D., LL.D., F.R.S.,
Lord Chancellor's Visitor in Lunacy.

[Abbreviated.]

WHEN that eccentric father of a family of geniuses, the late Rev. Mr. Brontë, desiring that his children should speak freely and without timidity, put them behind a mask and questioned them on various subjects, he was told by his son Branwell, then seven years old, in answer to one of his interrogations, that the best way of knowing the difference between the intellects of men and women is by considering the difference between them as to their bodies. That deliverance of the precocious boy seemed to his father at the time a wise saying, worthy of being recorded, and I daresay it seems the same to us as medical men to-day; but it is incontestable that there are now large numbers of cultivated persons to whom it must sound as foolishness, and a mere infantile echo of a barbarous prejudice.

There is a growing tendency around us to ignore intellectual distinctions between the sexes, to assimilate the education of girls to that of boys, to throw men and women into industrial competition in every walk of life, and to make them compeers in social intercourse. And as, to my thinking, this tendency is unphysiological, and likely if indulged to lead to average, greater in men than in women. There is, however, a correlation between brain weight and stature, and, laying hold of this fact, the advocates of woman's rights and mights have argued that the deficiency in her brain weight, when compared with that of man, is no more than is to be accounted for by her fewer inches; but this position is quite untenable. I do not know a trustworthy standard of the brain weights of healthy natives of this country to which to appeal, but I can submit to you a table showing the results of the weighing of the brains of a large number of insane persons all English, Scotch, or Irish, but mostly English, which, in this relation, is absolutely reliable.

Brain Weight.

Sexes.	Average Weight of Brain.		Average Height.			Excess of Male over Female Brain Weight.		Excess of Male Brain Weight after Allowance for Height.	
	Grams.	Ozs.	Metres.	Feet.	Inches.	Grams.	Ozs.	Grams.	Ozs.
945 Males ...	1350.54	47.64	1.702	5	7	127.68	4.50	29.71	1.05
655 Females	1222.86	43.14	1.575	5	2	—	—	—	—

In this table are summed up the brain weights of 1,600 persons: 945 males and 655 females, ranging from 10 to 80 years of age, the weighing of the brain having been in each case conducted by myself or under my own supervision. The brains of males exceeded those of females in weight by 127.68

"**The bodily differences between men and women which underlie their intellectual disparities are universal and intimate,** and involve every organ and tissue. I shall not attempt an extensive anatomical survey. My present purpose will be served by directing attention to certain sexual differences in one bodily organ, the brain. […] **Man is more wilful, enterprising, passionate, and energetic**, that is to say, more katabolic in the mental sphere, while **woman is more receptive, tranquil, affectionate, and constant**, that is to say, more anabolic in the mental sphere."

Crichton-Browne J. *Br Med J*. 1892

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

JUNE 6, 2024

RECOGNIZING HISTORICAL INJUSTICES IN MEDICINE AND THE *JOURNAL*

Malicious Midwives, Fruitful Vines, and Bearded Women — Sex, Gender, and Medical Expertise in the *Journal*

Ben Maldonado, B.A., Jamie Marsella, M.A., Abigail Higgins, A.B., and Sarah S. Richardson, Ph.D.

This article is part of an invited series by independent historians, focused on biases and injustice that the Journal has historically helped to perpetuate. We hope it will enable us to learn from our mistakes and prevent new ones.

Since its founding in 1812, the *Journal* has served as a source of medical claims about sex differences, portraying male and female bodies as not only different in terms of physiology, but completely different in nature. Sex was, as one 1844 article put it, "the greatest distinction by far of any which exists among mankind."[1] Early articles in the *Journal* openly endorsed the superiority of men over women. An 1892 summary of a speech by Scottish physician James Crichton-Browne, for example, argued that differences in brain sizes and thus intelligence were a "fundamental sexual distinction" between men and women.[2]

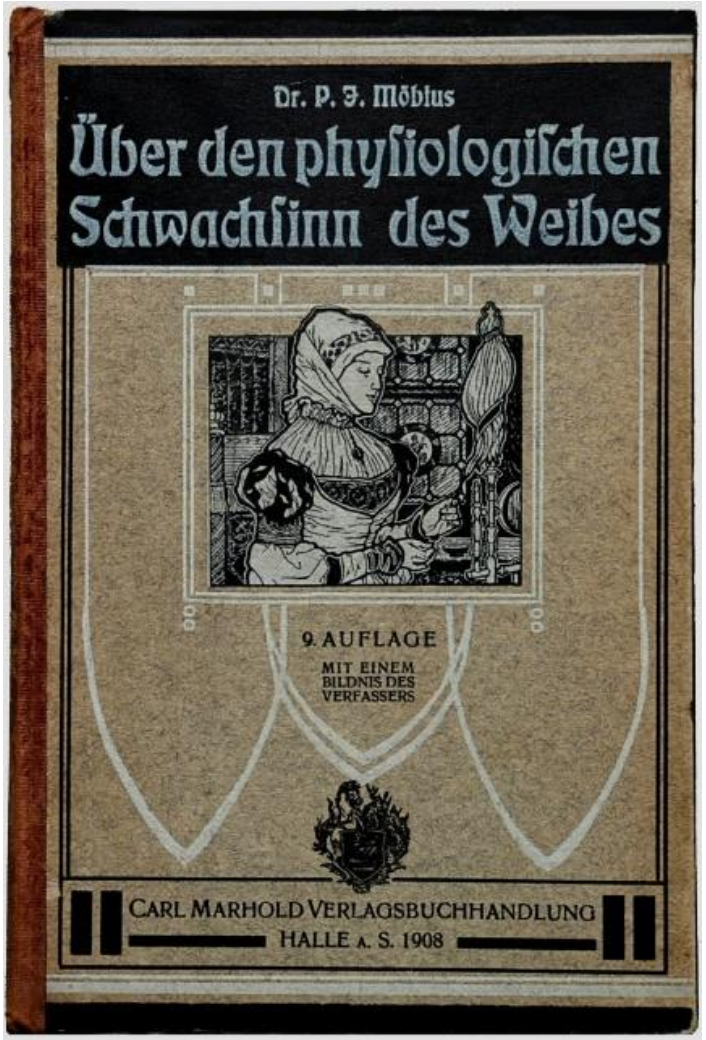
We analyzed publications in the *Journal*'s archives covering more than 200 years, which we retrieved by means of directed keyword searches, using a snowball approach. The sources we present here are both extraordinary and representative of the *Journal*'s approach to sex in medicine. We structure our discussion using three topic areas, which are neither discrete nor exhaustive, that illustrate the ways in which the *Journal* has circulated sexist ideas as it has generated authoritative medical discourse about innate sex differences: women in the medical profession, reproductive biology and medicine, and the medical management of intersex conditions. The next article in this series will complement this one, expanding on the theme of sex by addressing sexual and gender minorities.

Maldonado B et al. *N Engl J Med.* 2024

Dr Paul Julius Möbius (1853-1907)

« De l’imbécilité physiologique de la femme», 1900

Sur la base du poids cérébral inférieur des femmes par rapport aux hommes, Möbius conclut que les femmes ne sont pas intellectuellement capables de traiter les problèmes de la vie politique, car elles sont guidées par l'instinct et moins aptes à discerner le bien du mal.



XXTH: SHIFT ÉPISTÉMOLOGIQUE

1960 : mouvements féministes

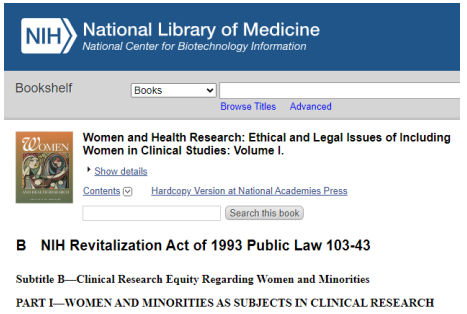
- Inadéquation des standards normatifs
- Résultats non généralisables
- “Women’s health”

1993 : NIH Revitalization Act

- Inclusion des femmes et des autres "minorités" dans la recherche

2006 : Conseil européen de la recherche :

- Inclusion des dimensions de sexe et de genre dans la recherche



QUELLES SONT LES CONSÉQUENCES

nature

www.nature.com/nature

Vol 465 | Issue no. 7299 | 10 June 2010

Putting gender on the agenda

Biomedical research continues to use many more male subjects than females in both animal studies and human clinical trials. The unintended effect is to short-change women's health care.

Differences in the physiology of males and females, and in their response to disease, have been recognized for decades in many species — not least *Homo sapiens*. The literature on these differences now encompasses everything from variations in gene expression between male and female mice, to a higher susceptibility to adverse drug reactions in women compared with men. Moreover, hormones made by the ovaries are known to influence symptoms in human diseases ranging from multiple sclerosis to epilepsy.

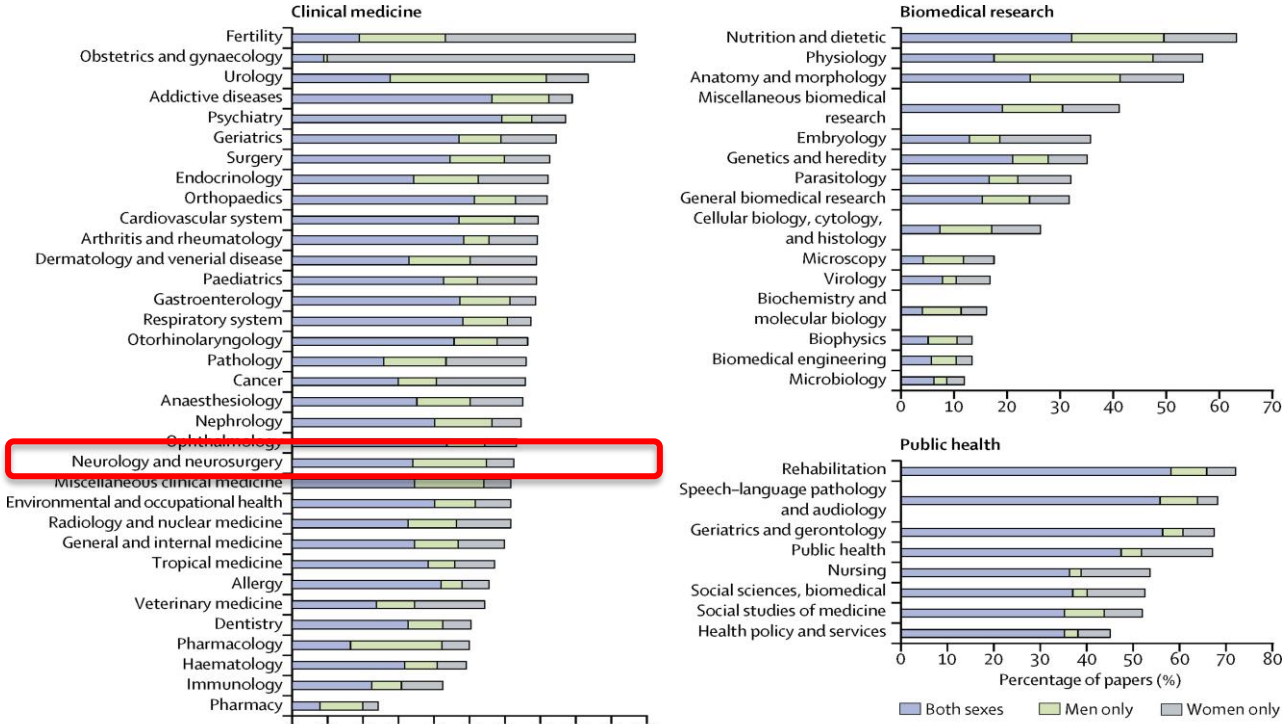
And yet, despite the obvious relevance of these sex differences to experimental outcomes, three articles in this issue (see pages 688–690) document that male research subjects continue to dominate biomedical studies. Some 5.5 male animal models are used for every female in neuroscience, for example. And apart from a few large, all-female projects, such as the Women's Health Study on how aspirin and vitamin E affect cardiovascular disease and cancer, women subjects remain seriously under-represented in clinical cohorts. This is despite reforms undertaken in the 1990s, when sex discrimination in human trials was first widely recognized as a problem.

whether to require the inclusion of such information. Funding agencies should demand that researchers justify sex inequities in grant proposals and, other factors being equal, should favour studies that are more equitable.

Funding agencies and researchers alike should also start thinking seriously about how to deal with the most fundamental sex difference: pregnancy. Pregnant women get ill, and sick women get pregnant. They need therapies, too, even though they are carrying a highly vulnerable fetus and their bodies are undergoing massive changes in hormonal balance, immune function and much else besides. Entering pregnant women in clinical trials is problematic in the extreme, for a host of ethical reasons. But ignoring the problem is not an answer either — the result is that physicians will prescribe drugs whose effects during pregnancy are poorly known. One possible solution is systematic retrospective data collection from

"Medicine as it is currently applied to women is less evidence-based than that being applied to men."

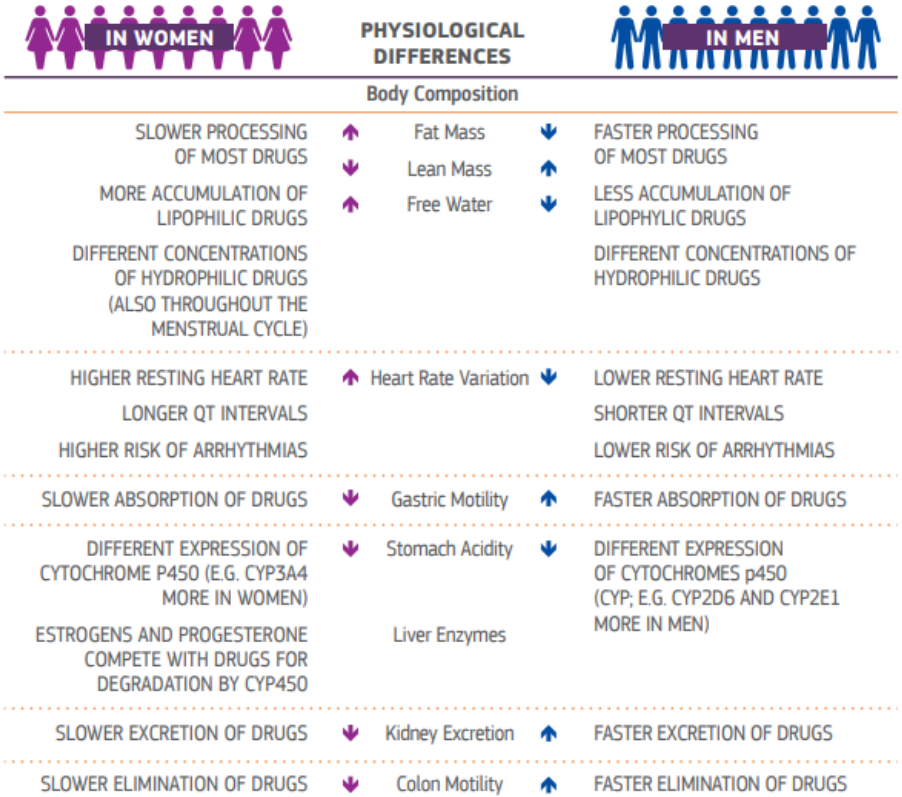
LA MÉDECINE RESTE ANDROCENTRÉE



Percentage of papers addressing sex (MeSH terms), by specialty, 1980–2016

Sugimoto et at. *Lancet* 2019; 393: 550–59

DIFFÉRENCES DE SEXE EN PHARMACOLOGIE



IN WOMEN	PHYSIOLOGICAL DIFFERENCES	IN MEN
	Body Composition	
SLOWER PROCESSING OF MOST DRUGS	↑ Fat Mass ↓	FASTER PROCESSING OF MOST DRUGS
	↓ Lean Mass ↑	
MORE ACCUMULATION OF LIPOPHILIC DRUGS	↑ Free Water ↓	LESS ACCUMULATION OF LIPOPHYLIC DRUGS
DIFFERENT CONCENTRATIONS OF HYDROPHILIC DRUGS (ALSO THROUGHOUT THE MENSTRUAL CYCLE)		DIFFERENT CONCENTRATIONS OF HYDROPHILIC DRUGS
HIGHER RESTING HEART RATE	↑ Heart Rate Variation ↓	LOWER RESTING HEART RATE
LONGER QT INTERVALS		SHORTER QT INTERVALS
HIGHER RISK OF ARRHYTHMIAS		LOWER RISK OF ARRHYTHMIAS
SLOWER ABSORPTION OF DRUGS	↓ Gastric Motility ↑	FASTER ABSORPTION OF DRUGS
DIFFERENT EXPRESSION OF CYTOCHROME P450 (E.G. CYP3A4 MORE IN WOMEN)	↓ Stomach Acidity ↓	DIFFERENT EXPRESSION OF CYTOCHROMES p450 (CYP; E.G. CYP2D6 AND CYP2E1 MORE IN MEN)
ESTROGENS AND PROGESTERONE COMPETE WITH DRUGS FOR DEGRADATION BY CYP450	Liver Enzymes	
SLOWER EXCRETION OF DRUGS	↓ Kidney Excretion ↑	FASTER EXCRETION OF DRUGS
SLOWER ELIMINATION OF DRUGS	↓ Colon Motility ↑	FASTER ELIMINATION OF DRUGS

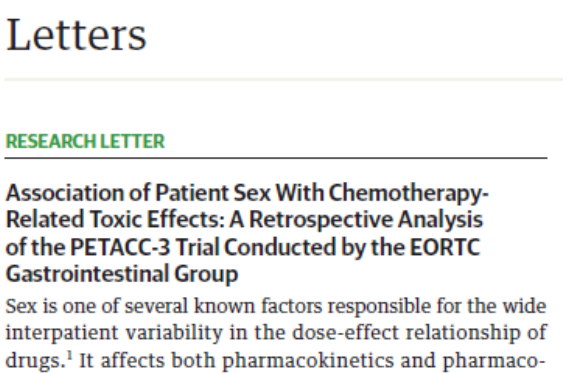
European Commission, Directorate-General for Research and Innovation, *Gendered innovations 2 : how inclusive analysis contributes to research and innovation : policy review*, Publications Office, 2020, **https://data.europa.eu/doi/10.2777/316197**

LES ÉCHANTILLONS MIXTES NE SUFFISENT PAS

- Besoin de mener des analyses qui prennent en compte le sexe/le genre.

SEXE ET TRAITEMENTS PHARMACOLOGIQUES

- PETACC-3 clinical trial: teste l'efficacité d'un traitement pour le cancer colorectal stade II et III (2'974 patients, 44% femmes)
  - Treatment A: fluorouracil et leucovorin
  - Treatment B: FOLFIRI (combinaison de leucovorin, fluorouracil et irinotecan hydrochloride)
- Résultats n'ont pas été analysés en fonction du sexe (2009)
- Nouvelles analyses (2018): évaluation de la toxicité des traitements en fonction du sexe



Letters

RESEARCH LETTER

Association of Patient Sex With Chemotherapy-Related Toxic Effects: A Retrospective Analysis of the PETACC-3 Trial Conducted by the EORTC Gastrointestinal Group

Sex is one of several known factors responsible for the wide interpatient variability in the dose-effect relationship of drugs.[1] It affects both pharmacokinetics and pharmaco-

Cristina V., Mahachie J., Mauer M., Buclin T. Van Cutsem E., Roth A., Wagner A. *JAMA Oncology* 2018.

TOXICITÉ PLUS IMPORTANTE CHEZ LES FEMMES

Table 1. Adverse Events With Statistically Significant Sex Differences in Pooled Treatment Arms in 2974 Patients[a]

Characteristic	No. (%) Female (n = 1318)	No. (%) Male (n = 1656)	Asymptotic Difference, % (95% Confidence Limits)	*P* Value[a]
Nonhematological Adverse Events				
Diarrhea				
All grade	705 (53.5)	809 (48.9)	4.6 (1.0 to 8.3)	.01
Grade 3-4	131 (9.9)	122 (7.4)	2.6 (0.5 to 4.6)	.01
Constipation				
All grade	149 (11.3)	123 (7.4)	3.9 (1.8 to 6.0)	<.001
Grade 3-4	4 (0.3)	8 (0.5)	−0.2 (−0.6 to 0.3)	.57
Nausea				
All grade	814 (61.8)	889 (53.7)	8.1 (4.5 to 11.6)	<.001
Grade 3-4	54 (4.1)	44 (2.7)	1.4 (0.1 to 2.8)	.03
Vomiting				
All grade	429 (32.5)	405 (24.5)	8.1 (4.8 to 11.4)	<.001
Grade 3-4	47 (3.6)	42 (2.5)	1.0 (−0.2 to 2.3)	.11
Cramping				
All grade	251 (19.0)	224 (13.5)	5.5 (2.8 to 8.2)	<.001
Grade 3-4	16 (1.2)	9 (0.5)	0.7 (0.0 to 1.4)	.07
Stomatitis				
All grade	480 (36.4)	501 (30.3)	6.2 (2.8 to 9.6)	<.001
Grade 3-4	34 (2.6)	20 (1.2)	1.4 (0.4 to 2.4)	.01
Cholinergic syndrome				
All grade	123 (9.3)	106 (6.4)	2.9 (1.0 to 4.9)	.004
Grade 3-4	1 (0.1)	4 (0.2)	−0.2 (−0.4 to 0.1)	.39
Lethargy				
All grade	556 (42.2)	612 (37.0)	5.2 (1.7 to 8.8)	.004
Grade 3-4	36 (2.7)	31 (1.9)	0.9 (−0.2 to 2.0)	.14
Alopecia				
All grade	549 (41.7)	431 (26.0)	15.6 (12.2 to 19.0)	<.001
Grade 3-4	18 (1.4)	6 (0.4)	1.0 (0.3 to 1.7)	.003
Hematological Adverse Events				
Leukopenia				
All grade	654 (49.6)	645 (38.9)	10.7 (7.1 to 14.3)	<.001
Grade 3-4	53 (4.0)	40 (2.4)	1.6 (0.3 to 2.9)	.01
Neutropenia				
All grade	818 (62.1)	886 (53.5)	8.6 (5.0 to 12.1)	<.001
Grade 3-4	293 (22.2)	215 (13.0)	9.3 (6.5 to 12.0)	<.001
Anemia				
All grade	1056 (80.1)	820 (49.5)	30.6 (27.4 to 33.8)	<.001
Grade 3-4	20 (1.5)	8 (0.5)	1.0 (0.3 to 1.8)	.01

BIAIS DE GENRE EN PHARMACOLOIE

Etudes pré-cliniques
76% cellules mâles
75% animaux mâles

Essais phase I-II
67% études chez les hommes

Pharmacovigilance et post-marketing
~50% de plus d'effets indésirables chez les femmes

Dosages mieux adaptés aux hommes

@ diapositive Prof. Thierry Buclin

Madla CM et al. Adv Drug Delivery Rev. 2021;175:113804

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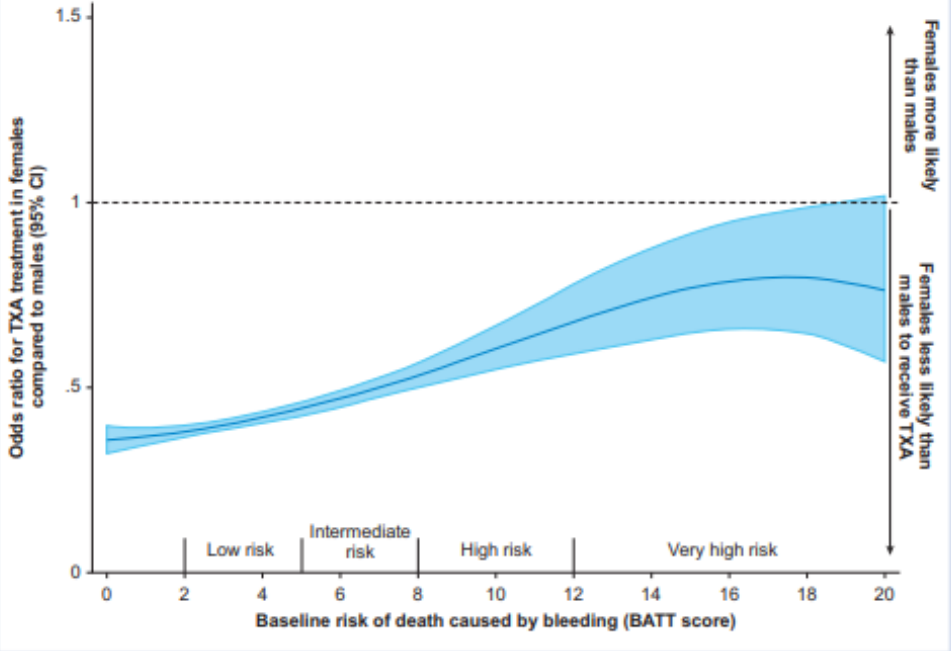

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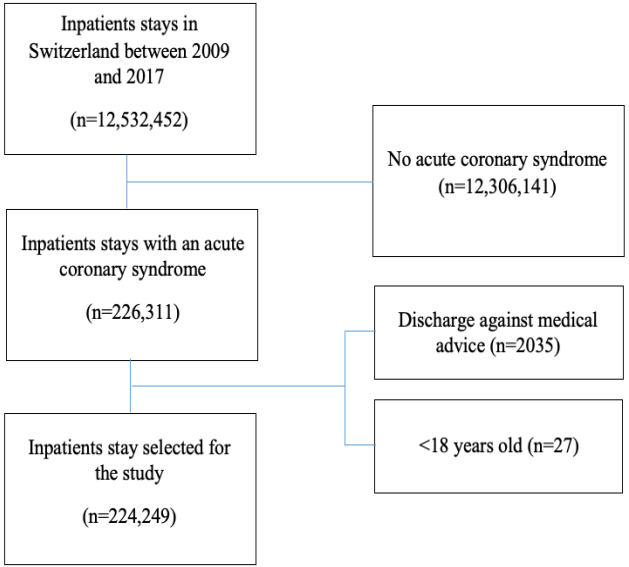
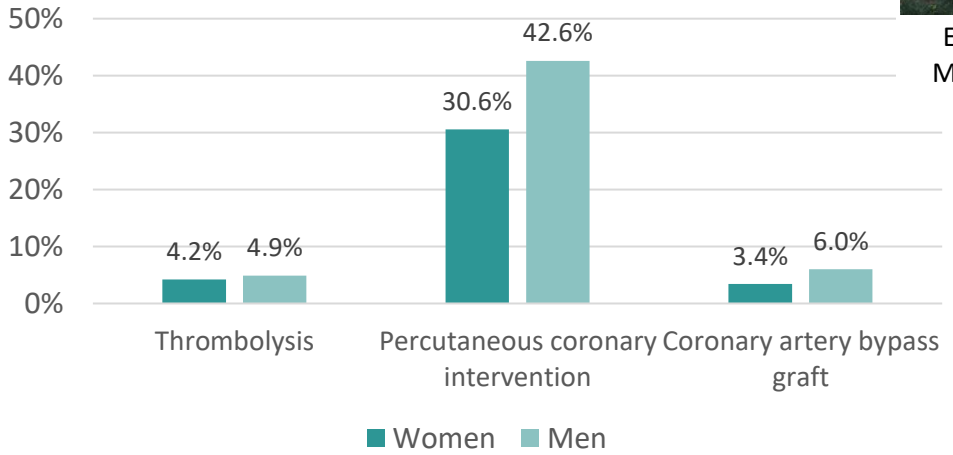
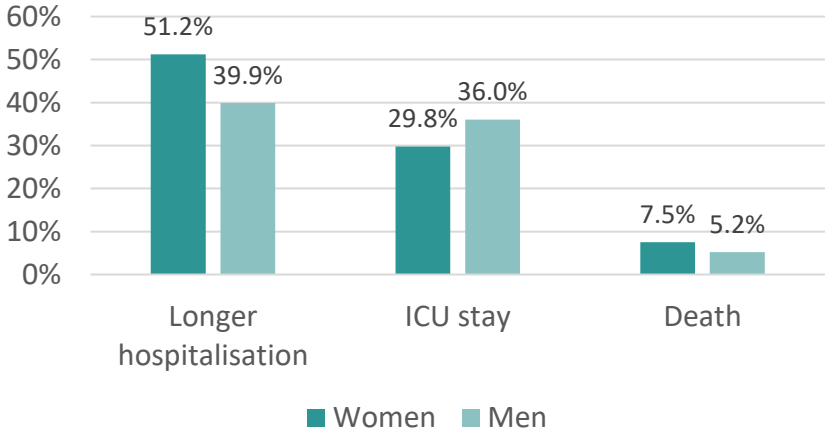
PRISE EN CHARGE DU SYNDROME CORONARIEN AIGU EN SUISSE

E. Huber
MD Thesis

- Etude cross-sectionnelle, utilisation des données administratives de santé des hôpitaux suisses, période 2009 to 2017

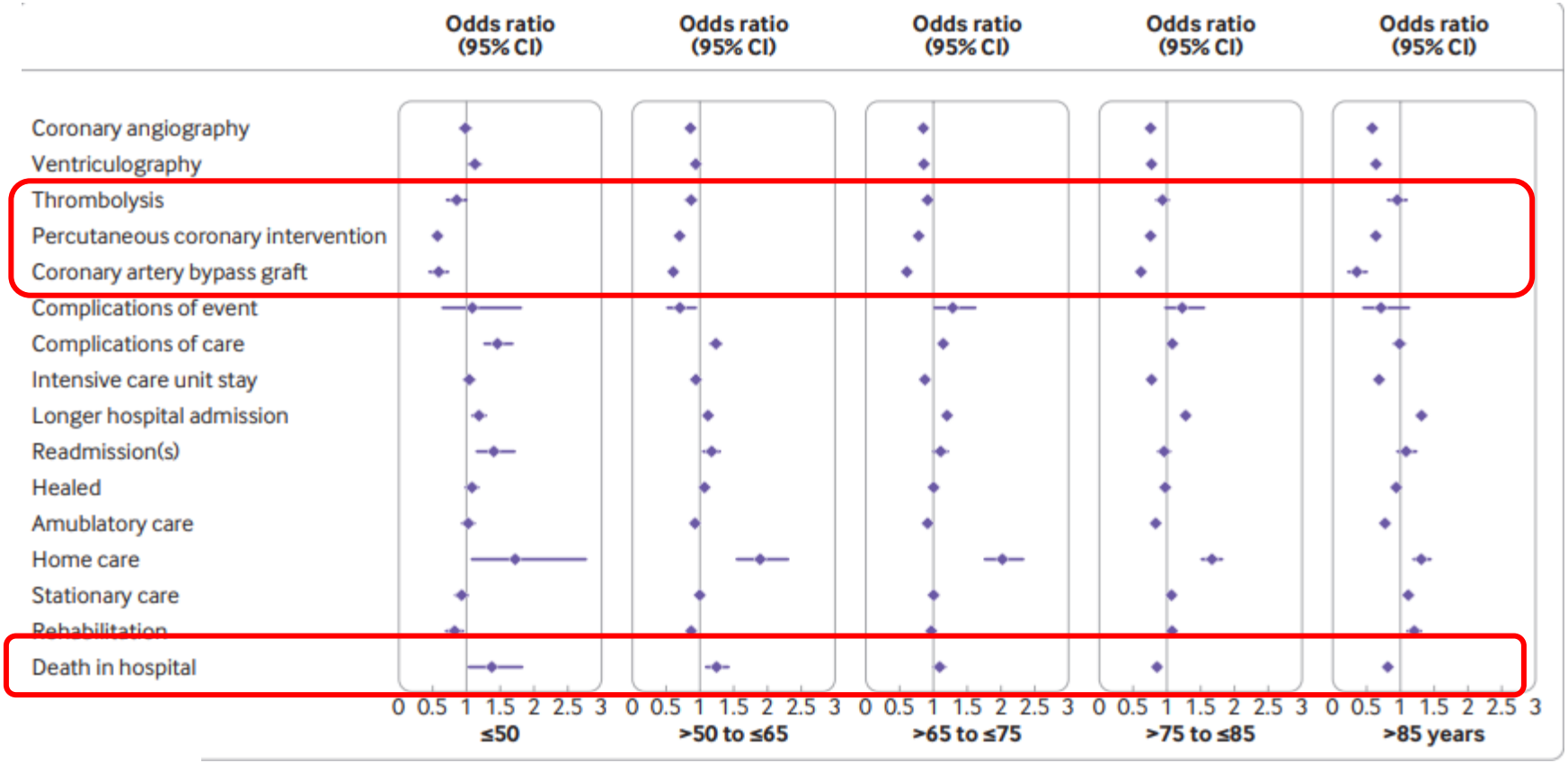






Huber E, Le Pogam MA, Clair C. *BMJ Med*. 2022 Nov 17;1(1):e000300. doi: 10.1136/bmjmed-2022-000300.

LES FEMMES JEUNES ONT UN RISQUE DE DÉCÈS AUGMENTÉ

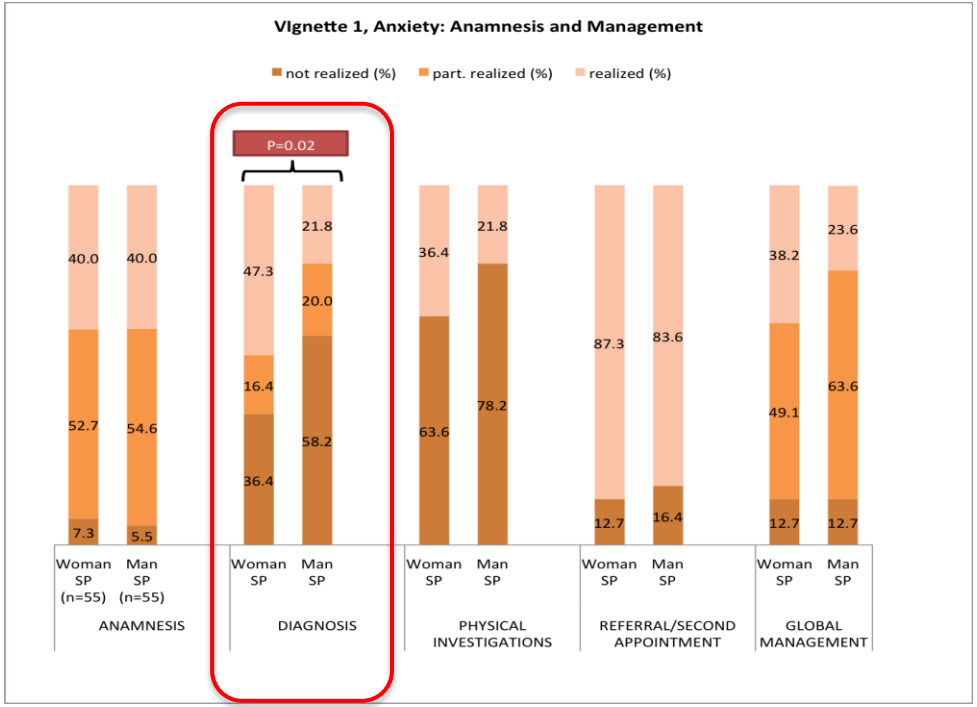


Huber E, Le Pogam M, Clair C
BMJ Medicine 2022;**1:**e000300. doi: 10.1136/bmjmed-2022-000300

*Adjustment variables: nationality, class of stay, presence of an older acute coronary syndrome event, somatic and psychiatric comorbidities

BIAIS DE GENRE CHEZ LES ÉTUDIANT.E.S

Examens de compétences cliniques (ECOS) des étudiant.e.s en M1 médecine de Lausanne



Le Boudec J, et al. *Patient Educ Couns*. 2023 Feb 8;110:107655. doi: 10.1016/j.pec.2023.107655.

BIAIS DE GENRE EN PRATIQUE CLINIQUE

- Il existe des preuves quantitatives de ces biais
- Mais elles n'expliquent pas ce qui se passe
- Besoin d'approches qualitatives pour comprendre les processus de traitements inégaux/injustes
  - Observations (méthodes ethnographiques).

Qualitative Sociology (2020) 43:235–254
https://doi.org/10.1007/s11133-020-09450-3

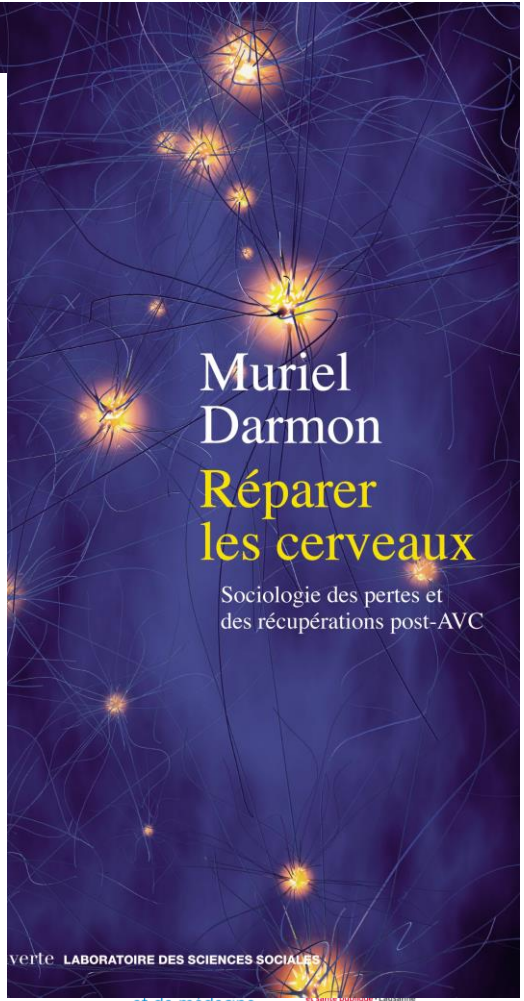
The School Form of the Hospital: How Does Social Class Affect Post-Stroke Patients in Rehabilitation Units?

Muriel Darmon[1]

Published online: 2 April 2020

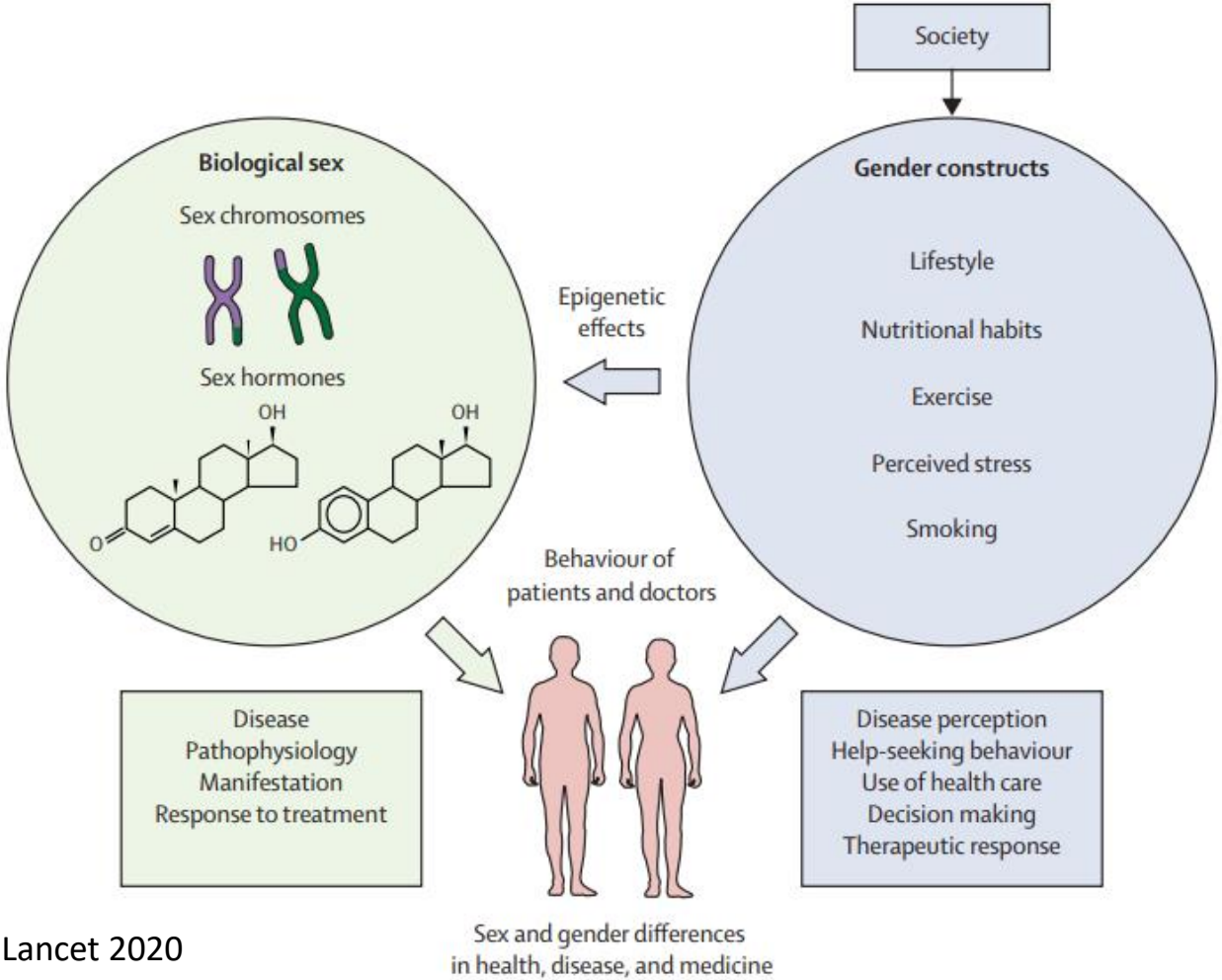
Abstract

This paper wishes to explain, using qualitative sociology, an epidemiological finding: that the extent of recovery following stroke is class-based and that patients from the working classes and lower socioeconomic groups are more vulnerable to functional impairments following stroke than those from higher socioeconomic groups. Based on a 15-month ethnographic study of neurology and rehabilitation units, the paper shows that hospital rehabilitation after stroke is shaped by a "school form," and that it therefore proves far



QUEL EST LE PROBLÈME?

- Biais de connaissance
  - Connaissance médicale construite sur un modèle *androcentré*
- Biais dans la clinique
  - Stéréotypes de genre/aveuglement face au genre
- Influence complexe du genre sur la santé
  - Influence de facteurs biologiques ET sociaux



Mauvais-Jarvis et al, Lancet 2020

SEXE OU GENRE?

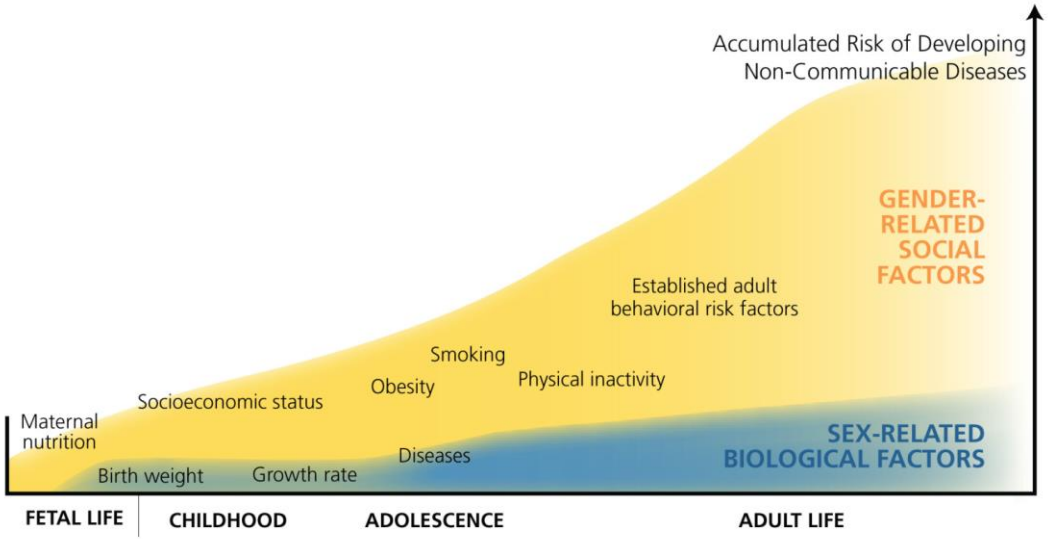
Déterminisme biologique	Théorie des systèmes dynamiques	Relativisme
100% biologique 0% social	100% biologique 100% social	0% biologique 100% social

Interaction dynamique

Fausto-Sterling, Anne. Science matters, culture matters. Perspectives in Biology and Medicine, 46, 1, Page(s): 109-124, 2003.

INFLUENCE DU SEXE ET DU GENRE SUR LA SANTÉ

Cumulative Life Course Risk Factors for Non-Communicable Disease (NCD)
Highlighting the influence of sex and gender-related factors



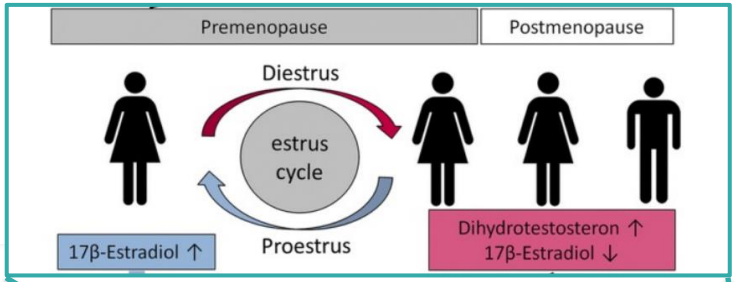
Adapted from Darton-Hill et al., 2004

Gendered Innovations website, Stanford University

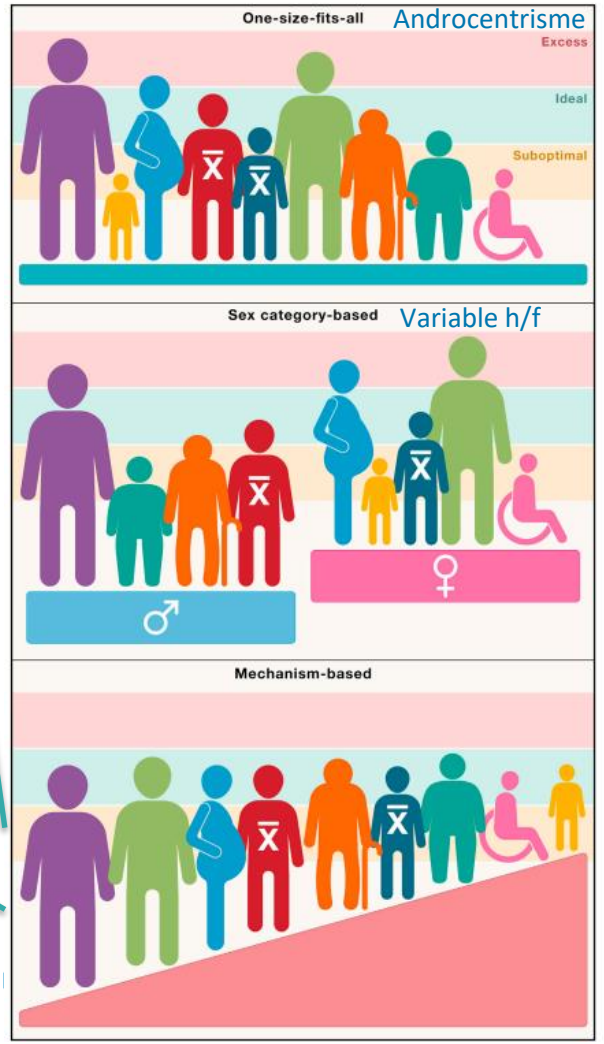
ALORS… COMMENT MESURER LE SEXE?

Sexe : ☐ F ☐ M

WHAT ABOUT SEX?



Richardson, S., (2022) "Sex Contextualism", Philosophy, Theory, and Practice in Biology 14: 2. https://doi.org/10.3998/ptpbio.2096



CellPress

Perspective

Sex contextualism in laboratory research: Enhancing rigor and precision in the study of sex-related variables

Madeleine Pape,[1,*] Miriam Miyagi,[2] Stacey A. Ritz,[3] Marion Boulicault,[4] Sarah S. Richardson,[5,6] and Donna L. Maney[7,8]
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[2]Center for Computational Molecular Biology, Brown University, Providence, RI, USA
[3]Department of Pathology & Molecular Medicine, Faculty of Health Sciences, McMaster University, Hamilton, ON, Canada
[4]Department of Philosophy, University of Edinburgh, Edinburgh, Scotland
[5]Department of the History of Science, Harvard University, Cambridge, MA, USA
[6]Committee on Degrees in Studies of Women, Gender, and Sexuality, Harvard University, Cambridge, MA, USA
[7]Department of Psychology, Emory University, Atlanta, GA, USA
[8]Harvard-Radcliffe Institute, Harvard University, Cambridge, MA, USA
*Correspondence: madeleine.pape@unil.ch
https://doi.org/10.1016/j.cell.2024.02.008

SUMMARY

Understanding sex-related variation in health and illness requires rigorous and precise approaches to revealing underlying mechanisms. A first step is to recognize that sex is not in and of itself a causal mechanism; rather, it is a classification system comprising a set of categories, usually assigned according to a range of varying traits. Moving beyond sex as a system of classification to working with concrete and measurable sex-related variables is necessary for precision. Whether and how these sex-related variables matter—and what patterns of difference they contribute to—will vary in context-specific ways. Second, when researchers incorporate these sex-related variables into research designs, rigorous analytical methods are needed to allow strongly supported conclusions. Third, the interpretation and reporting of sex-related variation require care to ensure that basic and preclinical research advance health equity for all.

CONTROVERSE: DIMORPHISME SEXUEL?

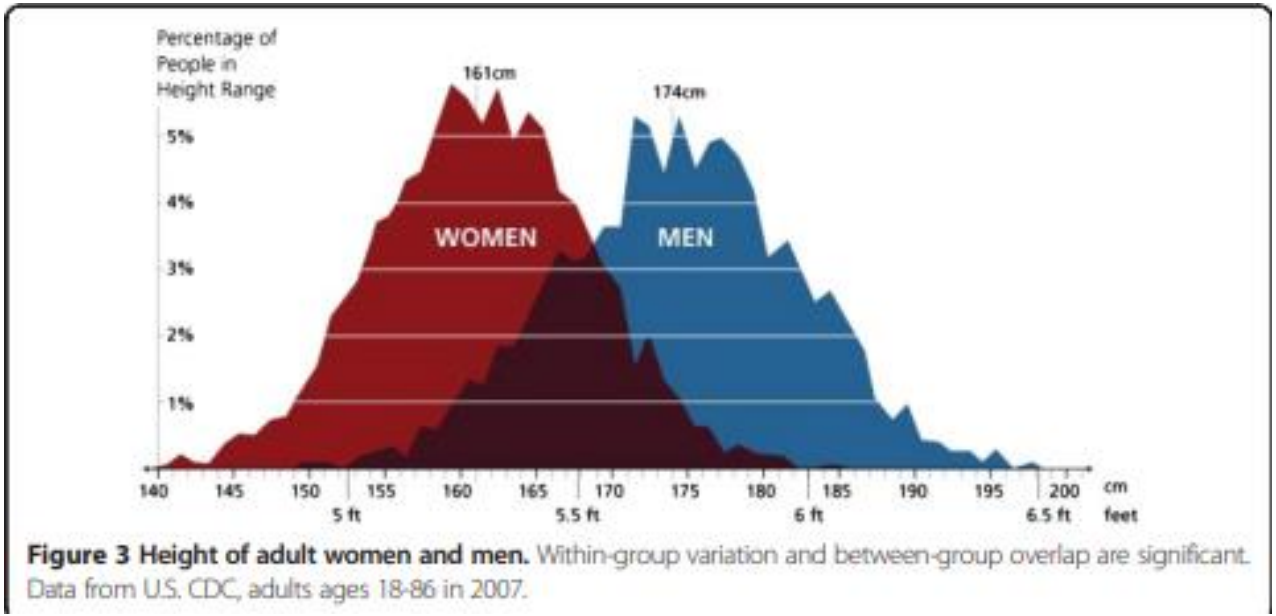
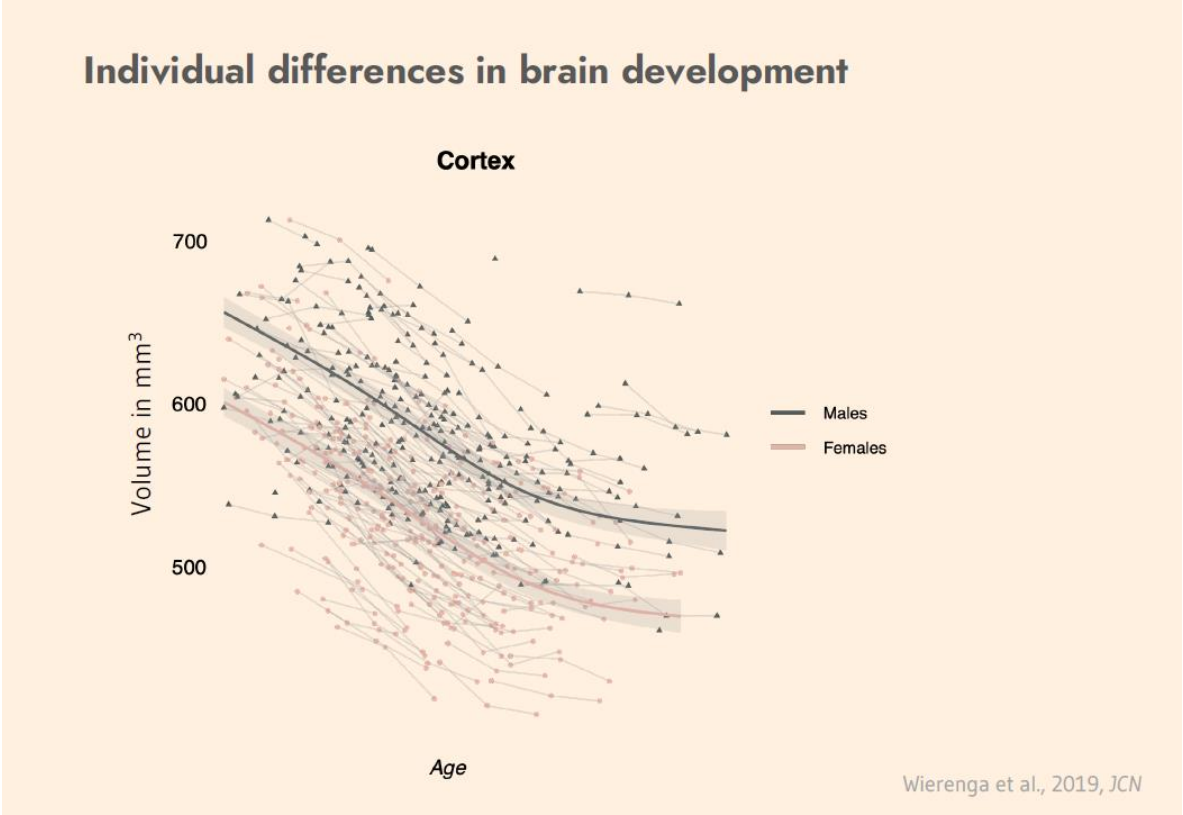


Figure 3 Height of adult women and men. Within-group variation and between-group overlap are significant. Data from U.S. CDC, adults ages 18-86 in 2007.

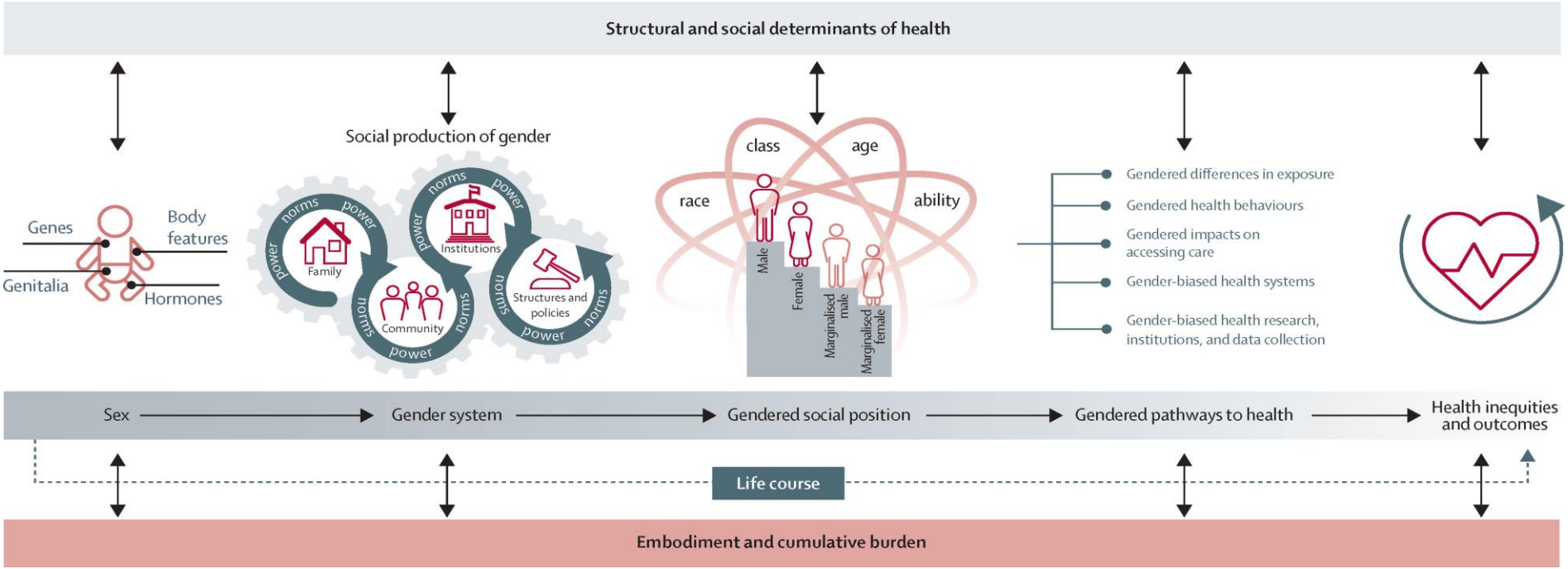
Schiebinger, L. Gendered innovations: harnessing the creative power of sex and gender analysis to discover new ideas and develop new technologies. *Triple Helix* **1**, 9 (2014). https://doi.org/10.1186/s40604-014-0009-7



Lara M. Wierenga, Marieke G. N. Bos, Fabienne van Rossenberg, Eveline A. Crone; Sex Effects on Development of Brain Structure and Executive Functions: Greater Variance than Mean Effects. J Cogn Neurosci 2019; 31 (5): 730–753. Figure presented at the Congress of the Organisation of the Study of Sex Differences, Bergen Norway, 08.05.2024.

ALORS… COMMENT MESURER LE GENRE?

Sexe : ☐ F ☐ M

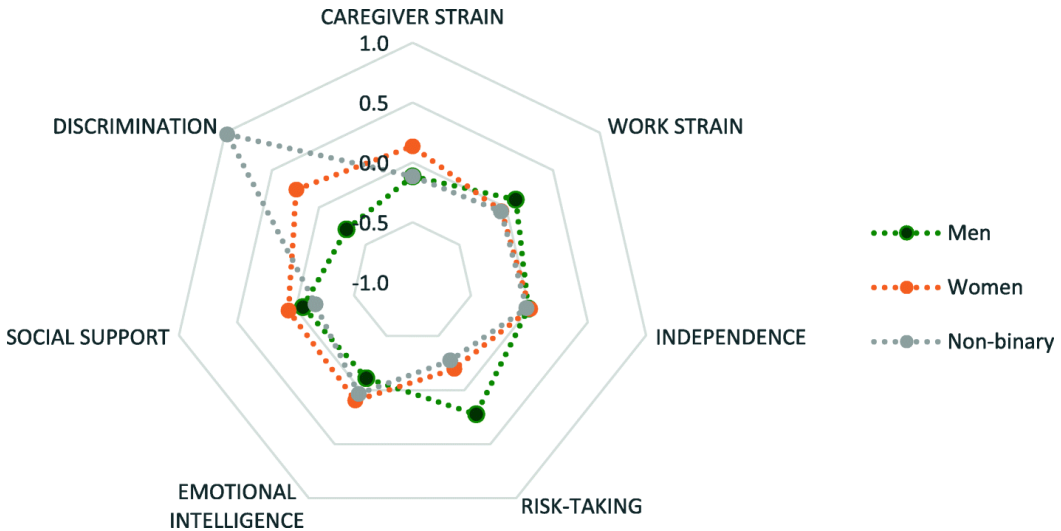


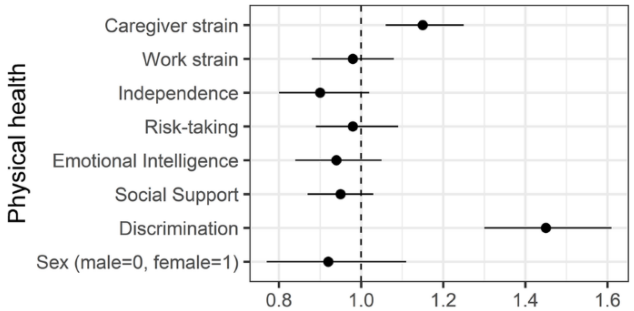
Heise, L., Greene, M. E., Opper, N., Stavropoulou, M., Harper, C., Nascimento, M., ... & Henry, S. (2019). **Gender inequality and restrictive gender norms: framing the challenges to health.** *The Lancet*, *393*(10189), 2440-2454.

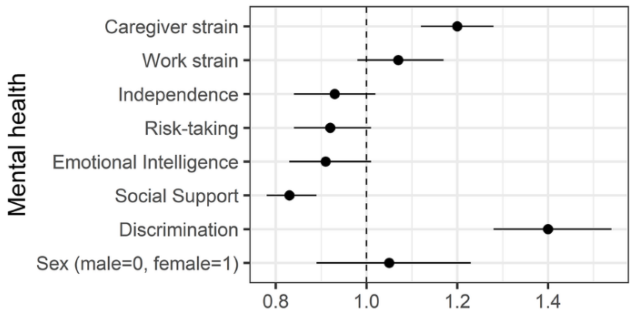
LIENS VERS LA SANTÉ/MALADIE

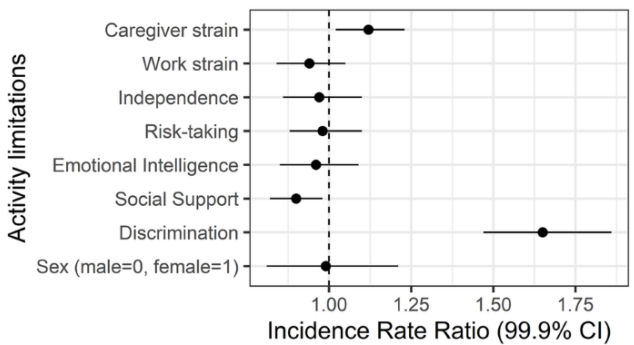
- Différences sociales
  - Différences de genre dans l'exposition :
    Division sexuée du travail (chantiers), lois (militaire), exposition à la violence (dynamiques de pouvoir)
  - Comportements de santé selon le genre :
    Régime alimentaire, activité physique, tabagisme : normes de genre liées à l'image corporelle, rôles et comportements attendus
  - Impacts genrés sur l'accès aux soins :
    Comportements en santé, accès financier (inégalité des retraites)
  - Systèmes de santé biaisés selon le genre :
    Biais dans la prise en charge

The Stanford Gender-Related Variables for Health Research









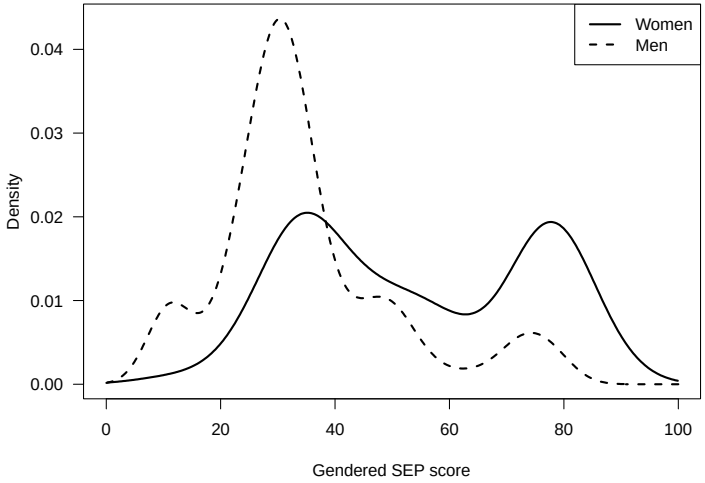
Nielsen et al. Gender-related variables for health research. Biol Sex Differ. 2021 Feb 22;12(1):23. doi: 10.1186/s13293-021-00366-3.

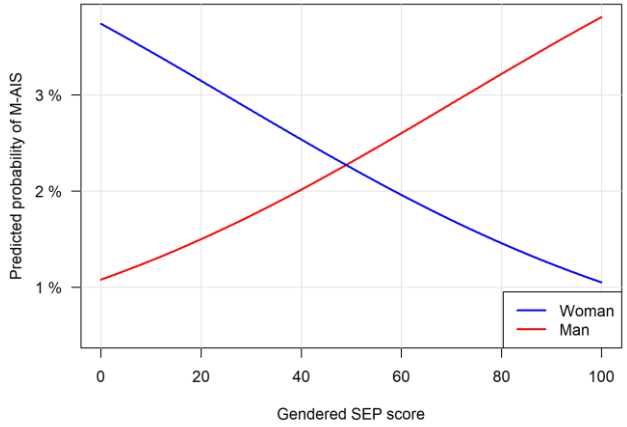
SCORE DE GENRE POUR ALLER AU-DELÀ DU SEXE

C. Barras
MD thesis

- Données du Registre des AVC aigus de Lausanne (ASTRAL) (2003-2020), N=6007
- AVC ischémiques aigus manqués (M-AIS) = 3 %, pas de différences entre les sexes
- Score de position socioéconomique genrée (gendered SEP)
  - État civil, situation de vie, niveau d'éducation, catégories professionnelles, activité professionnelle et avoir des enfants → conformité aux caractéristiques féminines

La conformité aux normes de genre peut avoir un effet protecteur





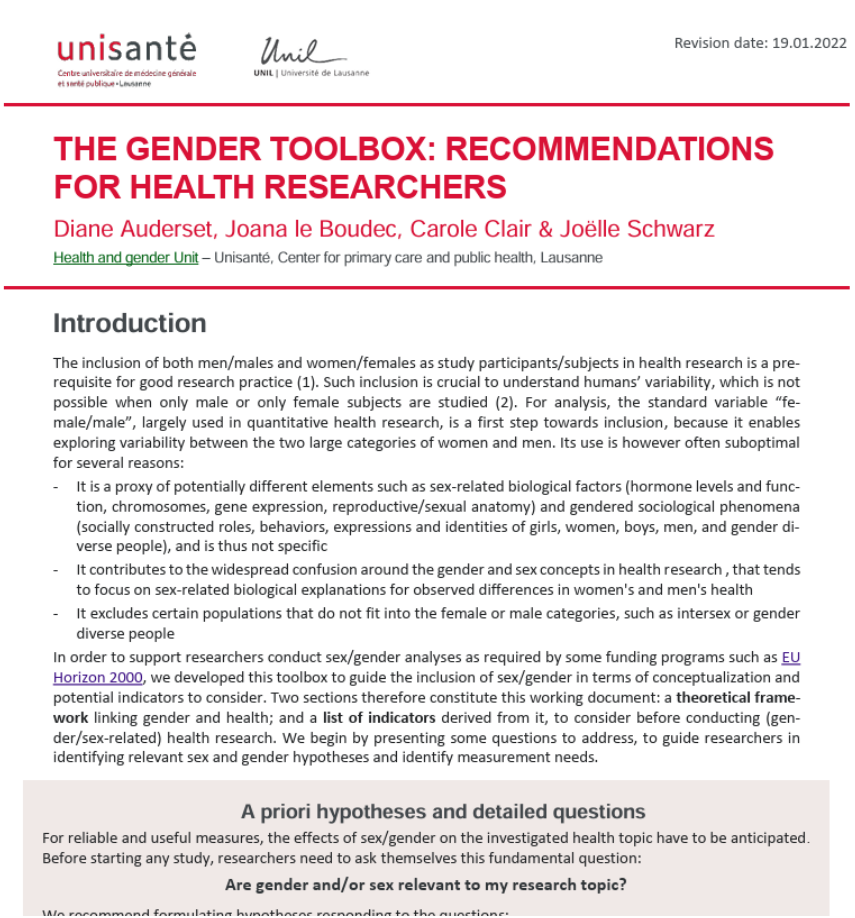
Barras C, …,Michel P*, **Clair C***. *Eur J Neurol Submitted*

GENDER TOOLBOX

Disponible ici:

https://www.unisante.ch/fr/formation-recherche/recherche/projets-etudes/creation-dun-index-mesure-du-genre-spark

Health and Gender Unit (2021). The Gender Toolbox: Recommendations for Health Researchers. Lausanne, Unisanté – Center for primary care and public health.



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Revision date: 19.01.2022

THE GENDER TOOLBOX: RECOMMENDATIONS FOR HEALTH RESEARCHERS

Diane Auderset, Joana le Boudec, Carole Clair & Joëlle Schwarz

Health and gender Unit – Unisanté, Center for primary care and public health, Lausanne

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:

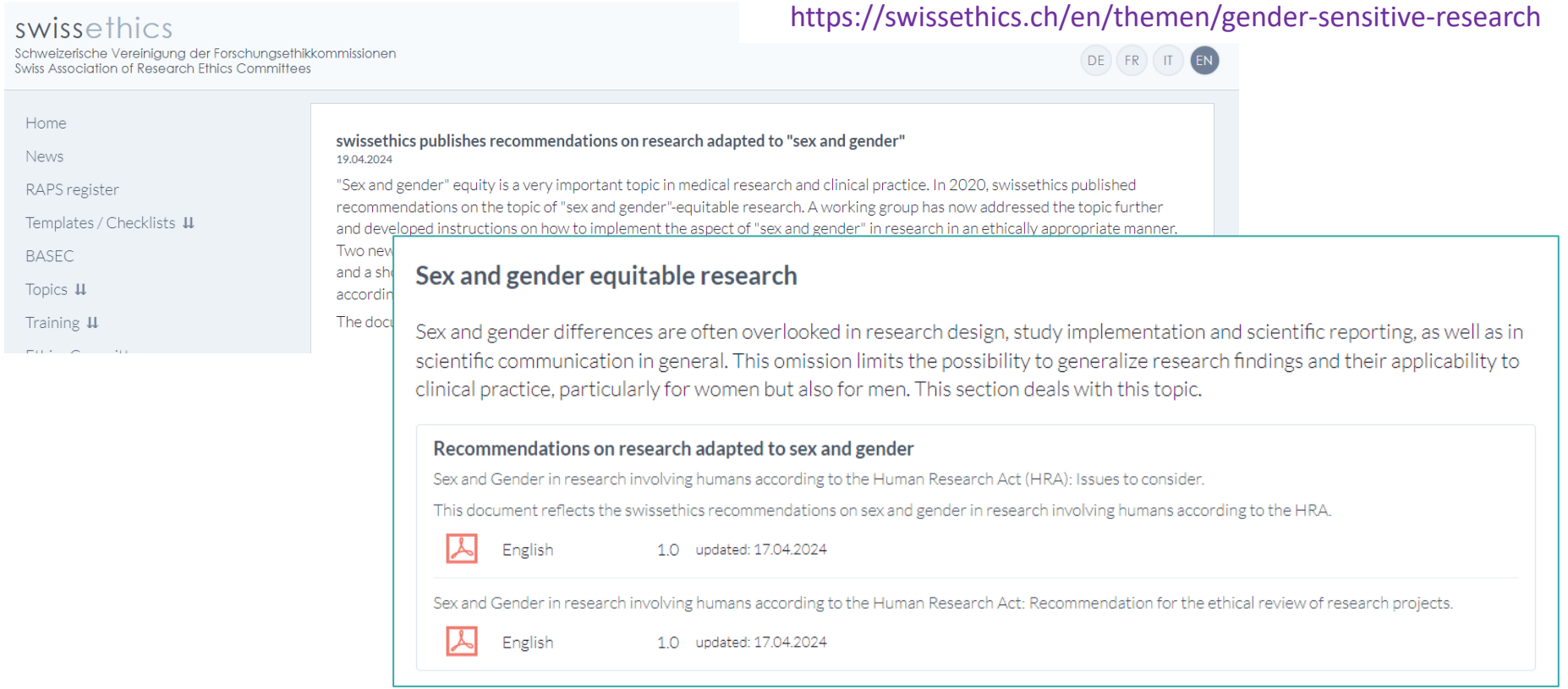
LES SAGER GUIDELINES (2016)

- Comprehensive procedure for reporting of sex and gender information in study design, data analysis, results and interpretations of findings
- Primarily designed to guide authors in preparing their manuscripts but they are also useful for editors to integrate assessment of sex and gender in all manuscripts as an integral part of the editorial process
- Convenient list of items to check off when writing, reviewing or editing manuscripts
- One checklist for studies including human participants and one for studies that do not include human participants (animals, cells)

Van Epps H, Astudillo O, Del Pozo Martin Y, Marsh J (2022) The Sex and Gender Equity in Research (SAGER) guidelines: Implementation and checklist development. European Science Editing 48: e86910. https://doi.org/10.3897/ese.2022.e86910

RECOMMANDATIONS SWISSETHICS

https://swissethics.ch/en/themen/gender-sensitive-research



https://swissethics.ch/en/themen/gender-sensitive-research

THE SAGER-SWISSETHICS RECOMMENDATIONS

QUESTIONS	YES	NO	Comment for RECs
1. TOPIC OF THE STUDY			
Are sex/gender (S/G), respectively sexual and gender diversity (SGD) issues relevant to the topic and aim of the study?			***If the answer is no, check that it is justified***
If sex/gender issues are relevant to the topic/aim, please check all the following items			
2. INTRODUCTION			
2.1. Are S/G and SGD dimensions developed (genetic and/or biologic or social mechanisms at play)?			*If no, ask for protocol's revision accordingly*
2.2. If appropriate, do the objectives include the question on S/G and/or SGD?			*If no, ask for protocol's revision accordingly*
3. METHODS			
3.1. Is the study population correctly described regarding S/G (including sexual and gender diversity)?			*If no, ask for protocol's revision accordingly*
3.2. Eligibility criteria: does it ensure representativeness of all the S/G and SGD dimensions? Is there a selection bias regarding S/G distribution?			*If no, ask for protocol's revision accordingly*
3.3. Recruitment of participants: does the process of obtaining the data ensure an adequate distribution of S/G and SGD?			*If no, ask for protocol's revision accordingly*
3.4. Definition of S/G and SGD dimensions: do they capture sex dimensions (hormonal levels, gene expression, etc.) and/or gender dimensions (identities, norms…) and/or sexual orientation dimensions (sexual attraction, romantic attraction…)?			*If no, ask for protocol's revision accordingly*
3.5. Statistics (incl. sample size): if S/G and SGD are of primary interest, does the sample size estimation integrate this aspect? Are the statistical analyses appropriate?			*If no, ask for protocol's revision accordingly*
4. INFORMED CONSENT & OTHER DOCUMENTS			
4.1. Informed consent form & other documents: does the content of information respect the epicene language, or at least is written in an inclusive manner?			*If no, ask for ICF's revision*
4.2. Informed consent form: Does the information cover the study's aspect related to sex/gender and SGD appropriately?			*If no, ask for ICF's revision*
4.3. Informed consent form: If applicable, is the issue of contraception and pregnancy fully and clearly presented? does the document address the issue of potential extra costs that may deter women/parents to participate in the study, e.g. child care and custody			*If no, ask for protocol's and ICF's revision*
4.4. In questionnaires, interviews: is the language and content inclusive? is the possibility to cover the sexual and gender diversity open (e.g. in an open box)?			*If no, ask for documents' revision*
5. PUBLICATION AND DISSEMINATION POLICY			
Do the publication and dissemination plans include the presentation of disaggregated results by S/G and SGD ?			*If no, ask for protocol's revision*

Merci pour votre attention!

www.unisante.ch/fr/formation-recherche/recherche/groupes-recherche/sante-genre

Contact : carole.clair@unisante.ch joelle.schwarz@unisante.ch