SUPPLEMENTARY FILE

PRISMA Flow Diagram

Records identified through database searching (n=7)
Duplicates removed (n=1)
Records screened (n=6)
Records excluded (n=3)
Full-text articles assessed (n=3)
Studies included in review (n=3)

PRISMA-ScR Checklist

Section	Item	Reported (Yes/No)	Location
Title	Identify as scoping review	Yes	Title
Abstract	Structured summary	Yes	Abstract
Introduction	Rationale	Yes	Introduction
Objectives	Research question	Yes	Method
Protocol	Protocol described	Yes	Method
Eligibility criteria	Inclusion/exclusion	Yes	Method
Information sources	Databases listed	Yes	Method
Search	Full strategy	Yes	Supplementary File
Selection of sources	Screening process	Yes	Method
Data charting	Data extraction described	Yes	Method
Synthesis	Thematic analysis	Yes	Results
Limitations	Stated	Yes	Discussion
Funding	Not applicable	Yes	End

FULL SEARCH STRATEGIES

PubMed

("neurofeminism"[Title/Abstract] OR "feminist neuroscience"[Title/Abstract] OR "gender bias"[Title/Abstract])

AND ("neuroscience"[MeSH Terms] OR "brain plasticity"[Title/Abstract])

AND ("ethics"[MeSH Terms] OR "bioethics"[Title/Abstract] OR "health law"[Title/Abstract])

AND ("gender identity"[MeSH Terms] OR "sex differences"[Title/Abstract])

Filters: English, 2000–2025

Scopus

TITLE-ABS-KEY("neurofeminism" OR "feminist neuroscience" OR "gender bias")

AND TITLE-ABS-KEY("neuroscience" OR "brain plasticity")

AND TITLE-ABS-KEY("ethics" OR "bioethics" OR "health law")

AND TITLE-ABS-KEY("gender identity" OR "sex differences")

Web of Science

TS=("neurofeminism" OR "feminist neuroscience" OR "gender bias")

AND TS=("neuroscience" OR "brain plasticity")

AND TS=("ethics" OR "bioethics" OR "health law")

AND TS=("gender identity" OR "sex differences")

EBSCOhost

("neurofeminism" OR "feminist neuroscience" OR "gender bias")

AND ("neuroscience" OR "brain plasticity")

AND ("ethics" OR "bioethics" OR "health law")

AND ("gender identity" OR "sex differences")

ScienceDirect

("neurofeminism" OR "feminist neuroscience" OR "gender bias")

AND ("neuroscience" OR "brain plasticity")

AND ("ethics" OR "bioethics" OR "health law")

AND ("gender identity" OR "sex differences")

SCREENING LOG

Study ID	Database	Stage	Decision	Reason
S1	PubMed	Full-text	Included	Meets criteria
S2	Scopus	Title/Abstract	Excluded	Letter
S3	EBSCO	Title/Abstract	Excluded	Irrelevant
S4	ScienceDirect	Title/Abstract	Excluded	Irrelevant
S5	WoS	Duplicate	Excluded	Duplicate
S6	PubMed	Full-text	Included	Meets criteria
S7	Scopus	Full-text	Included	Meets criteria

DATA EXTRACTION FORM

Author	Year	Aim	Method	Gender Focus	Ethical Issues	Legal Issues	Contribution
Hoffman & Bluhm	2016	Neurosexism critique	Conceptual	Strong	Bias, stereotypes	Discrimination risk	Defines neurofeminism
Henry & Plemmons	2012	Neuroethics analysis	Conceptual	Moderate	Power misuse	Justice, rights	Policy implications
Chalfin et al.	2008	Gender in neuroethics	Commentary	Strong	Responsibility	Equality	Feminist integration

SYNTHESIS TABLE

Theme	Neurosexism and Neurofeminism	Neuroscience, Neuropolitics and Neuroethics:	Women's Neuroethics? Why Sex Matters for Neuroethics
Representation of Gender in Research	-Brain research is generally conducted based on a rigid binary structure (female/male), ignoring mosaic structures and overlaps. -Individual diversity and brain mosaicism are largely ignored.	Gender, racial, and class biases are embedded in the institutional practices of brain research. -Research samples and policy discussions often treat gender in a simplified manner.	-Brain science research on gender differences has increased significantly, but these studies do not adequately reflect the complexity of gender. -Gender is often reduced to binary categories in research.
Methodological Issues and Biases	-Methodological choices and publication bias exaggerate gender differences. -Data selection, analysis, and presentation reinforce gender categories.	-Research and practices are influenced by existing power structures; this can reproduce existing inequalities. -Studies are often conducted on non-representative or non-homogeneous groups.	-Historically, biological differences such as brain size have been used to justify discrimination. -Care must be taken in interpretations to avoid repeating these errors in new research.
Ethical Implications	- It may promote the notion of "natural roles". -The potential harm of studies perpetuating injustice may outweigh the benefits to be gained.	-Neurotechnologies may increase the risks of discrimination, privacy violations, and surveillance, particularly for disadvantaged groups. - Applications made without sufficiently strong scientific evidence may lead to harmful outcomes.	-Gender-based drugs may lead to new forms of discrimination through interventions such as "brain-based learning". -Communication with the public must be conducted in a careful and responsible manner.
Legal Implications	-There is a risk that neuroscience findings	-The biased or intrusive use of neuroscience in	-Neuroethics should include principles that

	may be used in legal and educational policies to limit the rights of women and non-binary individuals. -Research shaping equality and access standards may lead to problematic outcomes.	legal applications may lead to misinterpretations of concepts such as intent and responsibility.	prevent misapplications that could lead to discrimination in education, recruitment and medicine. -Clear ethical frameworks are necessary to ensure the fair application of findings.
Neurofeminist Recommendations	-We must move beyond binary gender categories by recognising brain mosaicism and individual differences. -Methodological practices should be reviewed and reformed. -Scientific communication should be conducted in an inclusive and balanced manner.	-Public debates, stakeholder participation, and awareness of structural inequalities must precede policy implementation.	-Neuroethics should encompass gender studies and develop safety measures to prevent bias and inequalities.
Comparative Thematic Analysis of Selected Studies			