

WHAT IS THE GENDER DIMENSION IN RESEARCH?

CASE STUDIES IN INTERDISCIPLINARY RESEARCH

TRINE ROGG KORSVIK & LINDA M. RUSTAD



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OVER THE LAST FEW YEARS, the gender dimension in research content has received increased attention. One reason is that gender perspectives improve the quality of research and innovation. According to the European Commission and several national research funding institutions, the gender dimension should be included in research when relevant. However, what does the gender dimension mean? When is it relevant?

IN THIS BOOKLET we address researchers and others in the research community who are curious about what the gender dimension entails. By presenting case studies from a variety of research fields, such as health and quality of life, food, agriculture and fisheries, energy, transport, environment and climate, and safe societies, we aim to inspire researchers and others who want to learn more about how to work with the gender dimension in research.

WHAT IS THE GENDER DIMENSION IN RESEARCH? is published by Kilden genderresearch.no, an independent sub-unit of the Research Council of Norway. Kilden has a national responsibility for promoting and disseminating gender research and research with gender perspectives.

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INTRODUCTION

Over the last few years, the gender dimension in research content has received increased attention. The rationale is that integrating sex and gender analysis enhances the quality of research and innovation. In the European Research Area (ERA), gender mainstreaming in research is one of six key priorities. The European Commission and various national research-funding agencies and institutions encourage researchers to include the gender dimension in their grant proposals – when relevant. However, what does the gender dimension actually mean? When is it relevant?

THIS BOOKLET ADDRESSES RESEARCHERS and others within the research community who are wondering what the gender dimension entails. It deals with sex and gender analysis in research content, which is different from gender balance in research groups. By providing case studies as concrete illustrations of how sex and gender analysis has been applied within various interdisciplinary research areas, the aim of this booklet is to inspire researchers and others who want to learn more about how to include the gender dimension in research.

Within the research community, the gender dimension has been integrated most widely in the social sciences and humanities, as well as within interdisciplinary research. However, we have chosen to concentrate on fields where the gender dimension seems less obvious. The selected areas of research are inspired by the societal challenges as identified by the European Commission and the UN Sustainable Development Goals (SDGs), and comply with the propositions for the next research programme, Horizon

Europe. The themes, each comprising a separate chapter of this booklet, are: Health and quality of life; Food, agriculture, fisheries and the bioeconomy; Energy; Transport; Environment and climate; and Safe societies. In each chapter we present case studies that illustrate how the gender dimension can be included in these research areas. The case studies are presented as excerpts with links to the full studies.

In addition to case studies, we also provide a brief introduction to some key concepts concerning gender that may be useful for those who want to learn more about what the gender dimension in research involves. You will also find a checklist, or a guide, on how to include gender perspectives in your research projects.

What is the gender dimension in research? is published by [Kilden genderresearch.no](http://Kilden.genderresearch.no). Kilden is a national knowledge centre for gender perspectives and gender balance in research and an independent sub-unit of the Research Council of Norway (RCN), the national funding agency for research activities and the chief advisory body for the Norwegian government authorities on research policy. Kilden's aim is to disseminate, synthesize and promote knowledge from research on gender and gender-related issues. The booklet was written by Trine Rogg Korsvik, PhD, in collaboration with Linda Marie Rustad, Director of Kilden.

Originally, this booklet was published in Norwegian and highlighted Nordic research. Korsvik has translated and edited this English version to make it more relevant to an international audience. We also recommend reviewing previous projects that give practical examples of how sex and gender analysis leads to innovation and excellence in research, such as the EU-funded [Gendered Innovations](#) and [Yellow Window](#).



DID YOU KNOW?

When applying for EU grants, integrating the gender dimension in research and innovation is an added value in terms of excellence.

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WHAT IS GENDER?

The distinction between sex and gender was established in the 1960s and 1970s to repudiate the historical practice of using biological sex differences between men and women to legitimate the subordination of women. One typical example is the assumption of women's inability to think rationally due to their uterus, widely used in the 19th century as an argument to exclude women from intellectual and political activities.

SEX REFERS TO BIOLOGICAL, physiological and anatomical sex differences between females and males relating to chromosomes, genes, hormone levels, reproductive organs, brain structure, muscle mass, etc. Some people are born with variations of sex characteristics, also called intersex. Those who do not identify with the biological sex they are born with are referred to as transgender.

GENDER refers to socially and culturally constructed norms, values and expectations related to men or women, boys or girls. Gender also refers to attitudes and behaviours related to what is regarded as masculine or feminine. The notion of masculine or feminine, manly or womanly, is often unconscious, and the concept of gender varies over time and between cultures. For instance, while throughout history and in various cultures taking care of infants has been regarded as unmanly, the “caring father” has increasingly become an ideal and a norm in many societies, not least in the Nordic countries where welfare arrangements encourage fathers to take leave from work to care for their small children. Nevertheless, culturally constructed gender differences are often perceived as “natural”, such as the notion that girls are more caring than boys, or that it is “unnatural” for boys to wear a dress.

THE DISTINCTION BETWEEN SEX AND GENDER IS NOT ABSOLUTE. Scientists do not agree on the extent to which gender differences result from genes, brain structure and hormone level, from socialization, i.e. learning and experience, or from a combination of biology and socialization. Modern brain research demonstrates the flexibility of the brain and points out how the brain and the genes adapt to the surroundings. The causality from biology to behaviour is not unidirectional ([Fox Keller 2010](#); [Fine 2010](#)).



TRANSLATION OF THE CONCEPT OF GENDER

It is worth noting that many languages do not use separate terms for *sex* and *gender*. In a Scandinavian language such as Norwegian, the word *kjønn* may refer to both biological sex and social *gender*. In other languages, the English term *gender* was recently introduced as an academic concept, and this has been met with resistance and raised controversies across Europe

([Kuhar and Paternotte 2017](#)). Since this booklet is translated from Norwegian, where *kjønn* refers to both biological sex and social gender, we also use the term *gender* when referring to physiological differences between women and men, a usage that has become common in contemporary English. (For more details about the sex/gender terms, see [Gendered Innovations](#); [Moi 1999](#).)



INTERACTION OF BIOLOGICAL SEX DIFFERENCES AND SOCIO-CULTURAL FACTORS

One example is the difference in women's and men's reactions to toxic chemicals. In general, the female body is more vulnerable to toxic chemicals, especially in connection with reproductive cycles, pregnancy, lactation, and menopause. Additionally, toxic chemicals may be transmitted from mother to child during pregnancy and lactation. Females carry greater reserves of fatty tissue than males, making them generally more vulnerable to the impacts of fat-soluble

chemicals. On the other hand, in many societies men may be at greater risk of exposure to toxic chemicals because they are exposed more often than women to such substances in their workplace. This case illustrates how gender differences with regard to reactions to toxic chemicals are caused by a combination of biological sex differences and social factors related to the gendered division of work and occupational roles ([UNDP 2007](#)).



GENDER CAN BE CONCEPTUALIZED IN DIFFERENT WAYS

Gender may refer to a *categorical distinction* between men and women, boys and girls, i.e. that a person is either male or female. Other times, gender refers to the *different distribution* between women and men as groups, e.g. that men as a group on average have a higher income than women or that women as a group on average have a higher sickness absence rate than men. Gender also concerns *cultural discourses* about what is regarded as feminine or masculine (Nielsen 2017).

In daily life, as well as in research, it not uncommon that the different distribution between women and men as groups is coloured by cultural discourses of gender and

conceptualized as categorical distinctions about what gender is. An illustrative example of how the various ways of conceptualizing gender differences are conflated is the gendering of professions. Professions such as nursing and engineering are frequently labelled as “feminine” and “masculine”, respectively, because a majority of the professionals belong to one of the sexes. This way of interpreting distributive sex differences through the lens of common cultural gender discourses encourages the reproduction of stereotypes that ignore social and historical variations, as well as the substantial variations within the groups of women and men, and the overlap between them.

GENDER IN RESEARCH

GENDER AND SEX play a role in research in multiple ways, even when their significance is not readily apparent.

GENDER BLIND RESEARCH does not take gender into account and assumes that the research is gender neutral or that potential differences between men and women are not relevant.

GENDER BIAS indicates that gender stereotypes are reproduced in research. This may be due to unconscious perceptions or prejudices about gender. Throughout history, an androcentric approach dominated academia, i.e. that men were presented as universal for humans, or of “man”, as the normative reference. The man as the norm is articulated through the assumption that what generally applies to men also applies to women or that women are perceived as peculiar or as deviant from men.

Research on cardiovascular disease illustrates the idea of the male body as the norm. Until the 1990s, it was customary to assume that men and women have the same symptoms of heart attack. The research presupposed that the male heart and the female heart are alike. However, the symptoms of heart attack in female and male patients often differ. Instead of the typical male symptoms of pain in the chest and left arm, women may suffer pain in the stomach or back, as well as light-headedness, nausea, extreme fatigue, dizziness or fainting. Frequently, physicians have interpreted such “nonspecific” symptoms as caused by psychological distress. Thus, due to under-diagnosis of heart attack in female patients, numerous women have died or received the wrong treatment ([Bergström 2015](#); [The EUGenMed et al. 2016](#); [Albrektsen et al. 2017](#)).

Other cases of gender bias in medical research apply to breast cancer and osteoporosis, which are generally regarded as female-specific diseases even though men also suffer from them. Almost one-third of patients with osteoporosis are male. Still, osteoporosis is viewed as a disease that mainly affects older women. Osteoporosis in older men is a neglected public health problem, and only a few men with increased risk of fracture obtain adequate treatment ([Szulc, Kaufman and Orwoll 2012](#)).

GENDER/SEX as a variable occurs frequently in research, without necessarily being subject to analysis. An illustration is the use of gender as a variable in a study about crime among immigrants in Norway. In the study, gender is consistently controlled for as a variable in the comparisons of the proportion of registered offenders among immigrants, Norwegians with two immigrant parents, and the rest of the population. The study emphasizes variations in criminality correlated with nationality, immigration background, type of crime and development over time, but does not discuss the finding that 83 percent of those charged are male ([Andersen, Holtsmark and Mohn 2017](#)). The fact that the main characteristic of people charged with a crime is not their ethnic background, but their gender, is not addressed. The lack of reflection over the meaning of gender may result from a general belief that men are more criminally inclined than women, even though the vast majority of men are not.

Gender as a variable does not guarantee that the gender dimension will be included in research. Still, sex or gender-aggregated data or gender-differentiated statistics are essential because they form the basis of further gender analysis.

GENDER RESEARCH is a cross-disciplinary field that has developed mainly within the humanities and social sciences. Gender research is a distinct discipline as well as a perspective within other academic disciplines such as economics, philosophy, history and medicine, and within a variety of cross-disciplinary fields. Gender researchers generally use gender as their starting point for analysis. This does not indicate, however, that gender researchers seek to answer what gender “is” or what men and women “are”. Rather, they study how ideas about gender and gender relationships in society and culture are constructed, maintained and changed, and how such processes are related to power relations. Gender research also has a tradition of questioning, exploring and exposing gendered stereotypes and norms that govern understandings of gender - in the medical sciences, social sciences and humanities. Another approach is to study how women and men, femininity and masculinity, have been interpreted historically, in literature and culturally - including in the natural sciences.

Multiple research fields fall under the umbrella of gender research: women’s studies, men’s and masculinity studies, and queer and sexuality studies. In the Nordic countries there is also a strong tradition for gender equality research - that is, research on the distribution of power and gender balance within the family, at home, and in politics and business. Current gender research often relates to intersectional perspectives, that is, on how gender must be seen in conjunction with other markers of difference such as age, class, ethnicity, sexuality and functionality. (Read more at Kilden_genderresearch.no.)

GENDER DIMENSION IN RESEARCH means that gender is part of the research design and systematically controlled for throughout the research process without necessarily being the main focus of analysis. Research that takes the gender dimension into account is found in most scientific disciplines. For instance, a legal research project may investigate how gender-neutral legal rules affect women and men differently. An example of this is the effect of retirement pension rules. In many countries the rules are universal and gender neutral, and pensions are based on previous income. In practice, however, this theoretically gender-neutral rule may have different outcomes for women and men. Women who have worked part-time or stayed at home to take care of children receive much lower pensions than men (and women) who have worked full-time. In legal research, the gender dimension involves exploring how gender relations influence the distribution of rights and duties, benefits and disadvantages, legal protection and punishment.

In this booklet, we present numerous cases of research that include the gender dimension. It is important to keep in mind that this research does not necessarily focus on the differences between women and men. According to the European Commission, integrating the gender dimension involves questioning gender norms and stereotypes and investigating both genders' needs, attitudes and behaviours. It enhances the societal relevance of the knowledge, technologies and innovations produced ([European Commission 2014-2020](#)).



GENDER BIAS IN THE DIAGNOSIS OF SCHIZOPHRENIA

Men are diagnosed with schizophrenia far more often than women. Are men more often schizophrenic than women, or is the higher frequency of diagnosis among men the result of gender bias in psychiatrists' interpretation of a schizophrenia diagnosis? An experimental study investigated psychiatrists' diagnostic practice based on a case description. The psychiatrists did not know that half of them were shown a case vignette describing a male patient, while

the other half were presented with a female patient. Apart from the patient being described as "he" or "she", the stories were identical. When the case vignette involved a male patient, the schizophrenia diagnosis was given significantly more often than when the same description involved a woman. Thus, the gender difference in diagnosis was based solely on the psychiatrists' interpretation of an identical patient history ([Høye 2012](#)).



WHAT IS THE GENDER DIMENSION IN PSYCHOLOGY?

BY OLE JACOB MADSEN, ASSOCIATE PROFESSOR, DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF OSLO, NORWAY

Psychological knowledge is never neutral, but always subject to valuation. This applies to what is being researched, how it is researched, how the results are being used, and the effects of psychological research. Gender is an important category that affects the production of psychological knowledge in different ways. Currently, I am interested in public concern for young people under stress and pressure. One might think that the term stress

is neutral. However, in recent years several critical studies have appeared, showing that not just the phenomenon, but also the concept of stress, affects women in particular. For instance, the US feminist psychotherapist Dana Becker demonstrates how the concept of stress during liberal individualism does a piece of effective ideological work. It invites the individual to adapt to, rather than change, the social life conditions which cause the stress. ([Read more](#) [[in Norwegian](#)].)

CASE STUDIES OF THE GENDER DIMENSION IN RESEARCH

THE FOLLOWING CHAPTERS present case studies from a variety of research fields, illustrating the concrete use of the gender dimension in research. The chapters are as follows: Health and quality of life; Food, agriculture, fisheries and the bioeconomy; Energy; Transport; Environment and climate; and Safe societies. The topics of each chapter are partly based on the societal challenges that the European Commission has defined as research priorities, partly on the basis of the UN Sustainable Development Goals (SDGs). The 17 goals are the blueprint for achieving a better and more sustainable future for all. The goals are connected to each other and aim to end all forms of poverty, fight inequalities and tackle climate change by 2030. Goal number 5, “achieve gender equality and empower all women and girls”, cuts across all the SDGs because it is essential to achieving the other goals. As formulated by the UN, “gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world”.

Research and innovation are important tools for addressing the SDGs and global challenges. When reviewing the literature to find illustrative cases of research that included the gender dimension in the selected fields, we encountered some challenges. While there were many cases to choose from within the social sciences and health research, it was more challenging to find examples of research that incorporated the gender dimension into areas such as food production, energy, transport, climate and environment, and safe societies. At the same time, we noticed that researchers in these fields have recently started to pay attention to gender. Thus, in some cases we present research projects that have just been launched, but the results are not yet available. In each chapter we propose some relevant research questions in the specific fields. Hopefully, these research questions will inspire reflection on how the gender dimension can enhance the research, also in other fields.

To ensure the professional quality of the case studies presented, we have been assisted by researchers with expertise in the various research fields (see the list of contributors at the end of this booklet).



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HEALTH AND WELL-BEING

ENSURING HEALTHY LIVES AND promoting the well-being of all people at all ages constitutes the UN's 3rd Sustainable Development Goal. The European Commission emphasizes research that improves our understanding of the causes and mechanisms underlying health, healthy aging and disease, as well as the ability to prevent, detect, treat and manage disease. In particular, attention is paid to research on how the aging population of Europe can remain active and independent for a longer time. The Research Council of Norway, on the other hand, calls for research that helps to reduce inequalities in health. Another aim is to promote research on the causes of physical and mental illness among children and youngsters and how to prevent such illness.

Health entails biology as well as social conditions. Thus, it is a field of knowledge in which both the sex and the gender dimensions are highly relevant.

THE GENDER DIMENSION IN HEALTH RESEARCH

Biological sex differences are of great importance to men's and women's health. The differences comprise more than the obvious sex-specific reproductive functions, body composition, etc. For instance, research has shown that women's hearts and arteries are smaller than men's and that the electrical system of the female heart is different. Women have a lower level of activity in the kidneys and liver than men, which affects metabolism and drug clearance. Although research has made progress, more knowledge is still needed about biological sex differences in health and how they relate to social gender differences (Winsnes Rødland 2018).

The gender dimension in health research may entail studying the health impacts of different life conditions among men and women, that is, to emphasize structural, social and cultural conditions. Social inequalities when it comes to

power relations, financial status and decision-making authority affect people's health and their need for health care. The gender dimension in health research also involves studying variations within the two groups of women and men, and by including other markers of differences related to socio-cultural variables in the analysis. Another way to incorporate the gender dimension into health research is to critically examine the medical discipline's knowledge paradigms. Possible research questions may be:

- In which ways do beliefs and conceptions about sex and gender differences affect the diagnosis and treatment of women and men?
- Why are women's symptoms often considered to be more diffuse than men's symptoms?
- Why do certain medical specialties, such as neurosurgery and thoracic surgery, have higher prestige than others, e.g. geriatrics?
- To what extent are medical consultations characterized by gender-related power relations between physicians and patients?



GENDER EQUALITY AND QUALITY OF LIFE

BY ØYSTEIN GULLVÅG HOLTER, PROFESSOR, CENTRE FOR GENDER RESEARCH, UNIVERSITY OF OSLO, NORWAY

The gender dimension is important in research on health and well-being. My research shows that gender equality is linked to several positive features. In gender-equal families, there is less violence against women and children, and men's well-being is positively affected as well. For example, fathers who took parental leave after childbirth report that they have better contact with their child later on. In addition, mothers in gender-equal relationships report that they are more content and satisfied than those who are in less equal relationships (Holter, Svare and Egeland 2009; Holter 2014).

The research project "Gender Equality

and Quality of Life. A Norwegian Perspective" demonstrates that being exposed to violence and conflicts in childhood has clear negative health effects later in life. Moreover, an absence of equality between parents increases the risk of violence against children. An interesting finding is that gender equality is an independent variable that works across other factors, such as income levels. A specific focus on gender equality, not just gender, is needed for successful research.

Our studies have served as the starting point for international research. The fact that there is a connection between gender equality and better quality of life has been confirmed by

investigations in very different countries such as Bosnia, the Democratic Republic of the Congo, Egypt, Mexico, Palestine, and Poland (IMAGES 2011; Warat et al., 2016). We also find large variation within each country, between different households, different work organizations, etc.

Studying health and quality through the lens of gender and gender equality provides new and important knowledge. Gender affects the personal relations that are closely connected to well-being. Still, this is little explored – there is a lot to discover.



MEDICINE AND MASCULINITY

The gender dimension in medicine also implies studying men in terms of gender. Why do men, on average, die earlier than women? Why do more men than women engage in risk behaviour, such as reckless driving, heavy drinking, and fighting? To answer these questions, it is not sufficient just to compare differences between men and women. Not all men get into a fight while drunk, and women drive recklessly as well. There are significant differences between men. Research on masculinities

has pointed out that risk behaviour is most prevalent among unemployed young men with a working-class background. R.W. Connell (1995) has suggested that these unemployed young men demonstrate masculinity through risk behaviour, reckless driving, drinking and fighting to compensate for the lack of a physically demanding job. Instead of focusing on gender only, Connell's analysis takes into account the interaction of gender, culture, class and status (Connell 1995).



MEDICALLY UNEXPLAINED PHYSICAL SYMPTOMS

Women are significantly more likely than men to be diagnosed with medically unexplained physical symptoms (MUPS). Why are the symptoms of female patients more seldom diagnosed? Why do physicians more often assume that women's ailments are the result of a mental condition?

To improve the consultation of patients with unexplained symptoms, Kirsti Malterud, a professor of general medicine, has developed methods for creating more equal dialogue between physicians and patients. The goal

of these internationally recognized methods is to improve physicians' understanding of the patients' health problems by utilizing the patients' own resources, experiences and knowledge about their own bodies. Many people have their own experiences of what is helpful for them. Instead of just concentrating on diseases in human beings, physicians must also see the strength of the patients, according to Malterud. These methods improve the dialogue between physicians and patients and make the diagnosis more accurate (Dietrichson 2017 [in Norwegian]).



DID YOU KNOW?

IN SPORTS, THE WORK FOR GENDER EQUALITY HAS DECREASED THE FOCUS ON HEALTH PROBLEMS SPECIFIC TO WOMEN.

Historically, women were excluded from sports. Since then, outstanding pioneers have made great efforts to enable women and men to participate in sports on equal terms. However, in the struggle for equal opportunities, certain female-specific problems have been downplayed, according to Kari Bø, a professor at the Norwegian School of Sport Sciences (NIH). She is a specialist in exercise science and pelvic floor disorders, and conducts research on health challenges specific

to women when participating in physical activity and exercise. Many women suffer pelvic floor dysfunction, which implies that they cannot be as physically active as they want to. A new research area is diastasis recti abdominis, that is, the split of the two straight abdominal muscles in connection with pregnancy. This is a problem affecting many women, though the research-based knowledge about it is still limited. ([Read more \[in Norwegian\].](#))



STRESS AND GENDER

BY MARCO HIRNSTEIN, RESEARCHER, RESEARCH LAB FOR STIMULATION OF THE BRAIN, DEPARTMENT OF BIOLOGICAL AND MEDICAL PSYCHOLOGY, UNIVERSITY OF BERGEN, NORWAY

Nowadays, “stress” is such an omnipresent word that it is hard to imagine it was not described as a scientific phenomenon until the mid-20th century. And only a few decades ago, we discovered that gender plays an important role in how humans are affected by stress.

Women’s and men’s reactions to stress are quite similar: A bit of stress builds up our mental and physical resistance; too much stress over longer time periods, however, makes both women and men sick. Symptoms may include muscle pains, headache, nausea, sleeping problems, heartburn, fatigue, concentration problems, as well as recurring infections, high blood pressure, cardiovascular disease, and a generally impaired immune system.

Men and women have the same fundamental stress system, but the responses to stress may vary to a certain degree. For example, in socially stressful situations, people often

display the “fight-or-flight” response. However, the “fight-or-flight” response seems more widespread among men. Women are more likely to show a type of behaviour that evolutionary psychologists label “tend-and-befriend”, which involves taking care of others (e.g. children) and seeking contact and support, especially from other women. An example illustrating the difference between the two stress responses is a workplace situation with a colleague you detest; one that stresses you out. One reaction may be to attack that colleague directly or to simply quit work (“fight-or-flight”). Another reaction may be trying to be nice to the person that causes you stress or to seek support from other colleagues (“tend-and-befriend”).

It is important to underscore that the variations in stress reactions refer to average gender differences. Besides, vulnerability to stress varies across age and different stages of life.

For example, if a mother is exposed to stress during pregnancy and shortly after delivery, male infants are more affected than female ones. This may explain why boys are more likely than girls to develop neurodevelopmental disorders such as ADHD, autism, or Tourette's syndrome. On the other hand, during puberty boys' increased testosterone levels dampen their stress response. That may be the reason why more young women (as compared to young men) suffer from depression and anxiety disorders. When women reach menopause, declining levels of oestrogen and progesterone may lead to an even higher risk of depression, before the body

has adapted. Conversely, a less active stress system in men may lead to a weaker immune system with higher risk of infection.

The gender differences in the stress response are the result of an interaction between sex hormones and the body's stress apparatus. Different socialization of women and men also impacts which situations are experienced as stressful. Still, our knowledge about the relationship between stress and gender is limited, as most studies investigating the neurobiological mechanisms of stress have neglected gender. For example, animal models are mostly based on male animals.



EXPECT MORE INVOLVEMENT FROM FEMALE FAMILY MEMBERS

Several studies have demonstrated how health professionals and other patient support service providers expect more involvement and responsibility from female family members than from male family members, and, also, that female relatives expect more of themselves (Winsnes Rødland 2018 [in Norwegian]). A qualitative study of rehabilitation processes in Norway shows that the patient support service providers expected female relatives to take much more responsibility than male relatives for coordinating the rehabilitation, which often involves a large number of service providers. The female family members said that they had to take responsibility for this work because no one else did. The male family members, on the other hand, more firmly pointed out the responsibilities of the service providers (Breimo 2014 [in Norwegian]). The study also shows that the service providers complimented the male relatives much more often such as: "He's so clever!", "He's doing so much for his wife!". Female relatives did not receive the same praise for their efforts

because the service providers saw it as obvious.

Quantitative surveys on elderly care in Norway confirm that there are gender differences in the allocation of public care and care services (NOVA 2010-2013). A survey experiment among managers of long-term care in Norway indicates that elderly women receive 34 percent more formal care if they have sons than if they have daughters. Or, in other words, if an elderly woman with care needs has a son, she would on average receive 167 minutes (34 percent) more formal care per week than if she had a daughter. The researchers find the results alarming, since Norwegian care managers are explicitly instructed to distribute home services according to patients' needs, not based on the gender of their family members (Jakobsson et al., 2016). The fact that this happens may erode people's trust in universal welfare schemes. Gender discrimination in the allocation of services also challenges the image of Norway as one of the most gender-equal countries in the world.



REPRODUCTIVE HEALTH AND MIGRATION

BY ABDI GELE, RESEARCH DIRECTOR AT THE NORWEGIAN CENTRE FOR MIGRATION AND MINORITY HEALTH (NAKMI), NORWEGIAN INSTITUTE OF PUBLIC HEALTH

In my area of research, reproductive health and Somali women's access to contraception and abortion, it is obviously not possible to avoid gender. Issues such as reducing unintended pregnancies, stopping HIV and improving maternal health are strongly shaped by gendered relations, norms and roles. So, specifically exploring women's participation in decision-making about their sexual and reproductive rights has paramount importance in research on those issues.

The biological and sociological differences between men and women give rise to differences in health needs and vulnerabilities. Good examples are how differences in power relations,

economic activities, access to resources and the degree of decision-making authority influence health outcomes. As a result, we find a number of gender-based differences in health needs and vulnerabilities, which I think explains why a gender perspective can be so crucial in health research.

A poor understanding of gender as a sociological determinant, as opposed to biological gender, whether in an immigration context or in a home country locality, reduces the effectiveness of reproductive health services. I think a stronger research emphasis on sociological gender in reproductive health research can help to improve the ability of our health services to reduce inequities in this field. ([Read more.](#))

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FOOD, AGRICULTURE AND FISHERIES

FOOD, FOOD SECURITY AND BIOPRODUCTION is a far-reaching field which includes the entire value chain from when the food is produced until it is eaten or wasted. The UN's 2nd Sustainable Development Goal seeks to end hunger, ensure access by all people to a sufficient amount of safe, nutritious food, and increase the capacity for sustainable agricultural productivity. The European Commission calls for research that gives attention to the interfaces between the economic, environmental and social dimensions of food production. This includes research that aims to deliver diverse and healthy food from land and sea, increase resource efficiency and environmental performance of food production, understand the impact of climate change on agriculture, resources and food quality, and identify opportunities to manage and adjust to the effects of climate change ([European Commission 2018](#)).

The concept of the bioeconomy entails a societal shift from an economy based on non-renewable resources to an economy based on sustainable utilization of renewable biological resources within agriculture, forestry, fisheries, aquaculture, biotechnology and industry ([Ruralis 2018](#)). Bioeconomy involves research and innovation, governments and consumers, as well as food producers such as farmers, fishers and workers in the processing industry. The field is cross-disciplinary and encompasses everything from seeds, water and soil, technology, land tenure and market relations, animal welfare and waste management, to hunger and overconsumption, taste and identity. The management of the biological resources relates to law, economics and politics.

THE GENDER DIMENSION IN FOOD RESEARCH

Quite a lot of research on food, food production and consumption includes the gender dimension. In all societies there are systematic gender differences with regard to the consumption and production of food, in addition to the control and management of

resources. Although there are great variations, a common feature of most societies is that women have the main responsibility for the preparation of food. At the same time, women and girls eat the least, especially in hard times (FAO 2013).

Most research on food production that incorporates the gender dimension concentrates on the Global South. Often this research explores how inequalities in power relations between men and women regarding property rights to land, education, access to technical equipment, fertilizers and types of seeds determine the production, trade and consumption of food. Typically, this research is initiated by the UN with the aim of improving women farmers' access to resources, thereby helping to end hunger (FAO 2011 and 2014; Ragasa et al. 2014). In the Global North, gender-differentiated statistics about properties in fisheries, land ownership, type of crops being cultivated, etc. are available. Gender is also one of several variables in national diet and nutrition surveys. Gender-differentiated statistics may form the basis for further gender analysis of food production and consumption. Possible research questions may be:

- What are the causes of the strong gender imbalance in the production and consumption of food? What are the impacts of the gendered division of labour within the bioeconomy, including in agriculture and fisheries, on local communities? What can be done to reduce the gender imbalance?
- What is the significance of gender in the transition process towards a sustainable bioeconomy? What can be done to make people reduce food waste and eat less meat?



FISHERIES AND GENDER

There are numerous studies on fisheries and seafood production in the Global South that incorporate the gender dimension. The explicit goal of this research is to advance gender equality in fisheries and aquaculture because of its positive effects on local communities. The reason is that women invest their extra income in their

families and local communities to a larger extent than men, thus contributing to development and reduced hunger.

Fisheries and aquaculture are Norway's second largest export industry and comprise the main business activity in many coastal communities. Through the Norwegian Agency

for Development Cooperation (NORAD), Norway is involved in supporting researchers working with women and gender equality policy within fisheries and aquaculture in the Global South. At home, however, the Norwegian government does not require that research in this area includes the gender dimension, even though less than 3 percent of Norway's full-time fishers are women ([Torp 2017](#)).

A pioneer in the field of gender studies in relation to fisheries in Norway is Professor Siri Gerrard from UiT The Arctic University of Norway. Since the 1970s, Professor Gerrard has analysed the consequences of government

policy on fisheries in small coastal communities in Northern Norway. She has found that the policies, especially since the 1990s, have favoured the major shipping companies engaged in trawl fishing, resulting in the outperformance of small-scale coastal fishers. These policies have made it even harder for women to get into professional fishing ([Torp 2016](#); [Lilleslåtten 2018](#) [in Norwegian]).

It is an open question for research whether a more gender-equal fishing, aquaculture and seafood industry in the Global North will lead to more sustainable management of marine resources.



FARMING AND GENDER

Globally, men own the most land, but there are considerable local variations. In the EU, approximately 20-30 percent of the land is owned by women, the same average as in the Global South. Local customs and regulations often prevent women from inheriting land ([UN 2012](#)). However, even in countries with formal equal rights, the agricultural sector is gendered. On a global scale, there is a correlation between the degree of mechanization in agriculture and gender. The less mechanized agriculture is, the higher the proportion of female farmers. In the EU, as well as in countries of the Global South, women account for about 40 percent of the labour force in agriculture. However, there are large differences within the EU. In countries with highly mechanized agriculture, such as the Netherlands, Germany and the Nordic countries, the proportion of women in agriculture is much lower than in less mechanized agriculture in eastern and southern Europe ([European Commission 2012](#)). In the EU there

are certain gender differences in agricultural production. Women are often employed on farms that operate mixed animal husbandry, horticulture and olive cultivation, while men are overrepresented in the production of grain and cattle. In the EU, farms run by women are smaller on average than those run by men. Many women who work on family farms lack professional status and do not have their own income ([European Parliament 2011](#)).

In Norway, women and men have had an equal right to inherit farms since 1974. Still, only 16 percent of the farmers are women ([Ruralis 2017](#)). Why don't more women use their right to own and run farms? On the one hand, women are reluctant to invest in farming because of structural factors such as insecure financial conditions, long work days and little spare time - working conditions that are difficult to combine with pregnancy, childbirth and toddler periods ([NBS 2015](#)). On the other hand, cultural barriers must be considered. Due to the historical

male dominance in farming, female farmers perceive that they are not taken seriously in agriculture. The family may reinforce gender stereotypes in farming and the discrimination of girls. The Norwegian agriculture researcher [Reidun Heggem \(2014\)](#) has shown that many parents in farming think that boys are born with a “tractor gene”, while girls are thought to have an innate interest in caring for animals. Thus, boys are considered the most fit to take over

farms that require many hours on the tractor. Girls, on the other hand, are perceived as more suitable for farming focusing on tourism and “green care” for disadvantaged people. The prejudice that girls and women are not capable of driving tractors acts as a form of implicit discrimination which is related to unconscious traditional understandings of what is considered male or female, according to Heggem.



DID YOU KNOW?

WOMEN LIVING ALONE WASTE THE MOST FOOD.

A study from Finland shows that women living alone waste more food than other groups. In households consisting of several people, more food is wasted when women buy the food than when men do the shopping ([MTT 2010](#)). One objective of the UN’s 12th Sustainable Development Goal, to “ensure sustainable

[consumption and production patterns](#)”, is to “halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains by 2030”. To achieve this goal, there is a need for more research on the types of food being wasted.



WHAT DO YOU EAT FOR DINNER?

Food is not just about nutrition, but also about culture and identity. What we eat serves as social and cultural markers between different groups. Nordic research on food and eating has long pointed out the different dietary habits of men and women ([Ekström, Pipping and L’orange Fürst 2001](#)). The main difference is that men eat more meat than women, also relatively when taking different energy needs into account.

Gender differences in eating habits are about cultural – and sometimes stereotypical – perceptions of gender and food: A bloody steak is food for “real men” and

salad is “feminine”. A Norwegian study of men and food from the early 2000s shows that many men are eager to distance themselves from women through their food consumption. They present their relationship to food as relaxed, that they eat a lot of food, quickly, to get satisfied, in contrast to women who are obsessed with healthiness, dieting and self-control almost to the point of hysteria. Many men say that their wives are responsible for making healthy food for the family ([Lindstad 2009](#)). However, there are social differences between men: Blue collar workers say more often than white collar workers

that they eat only to get satisfied, that food is a necessary fuel just as diesel in the tank. White collar men, on the other hand, are generally more concerned with healthy food, taste and gourmet cooking.

The study confirms other findings from Norwegian dietary studies showing that educational level is significant for what a person eats (Norwegian Directorate of Health 2012). People with a higher education are more likely to follow the advice of health authorities to eat more vegetables and less meat. In Norway, less

than half the population eats vegetables on a daily basis, and single men with little education eat the fewest vegetables. These findings are likely not applicable in all other countries, but they highlight the importance of research-based knowledge on social differences in eating habits when the aim is to make people change their diet for reasons of personal health and environmental sustainability. Public campaigns must be designed in a way that not only communicates with the educated middle class, but that also appeals to men with less education (Skuland 2015).

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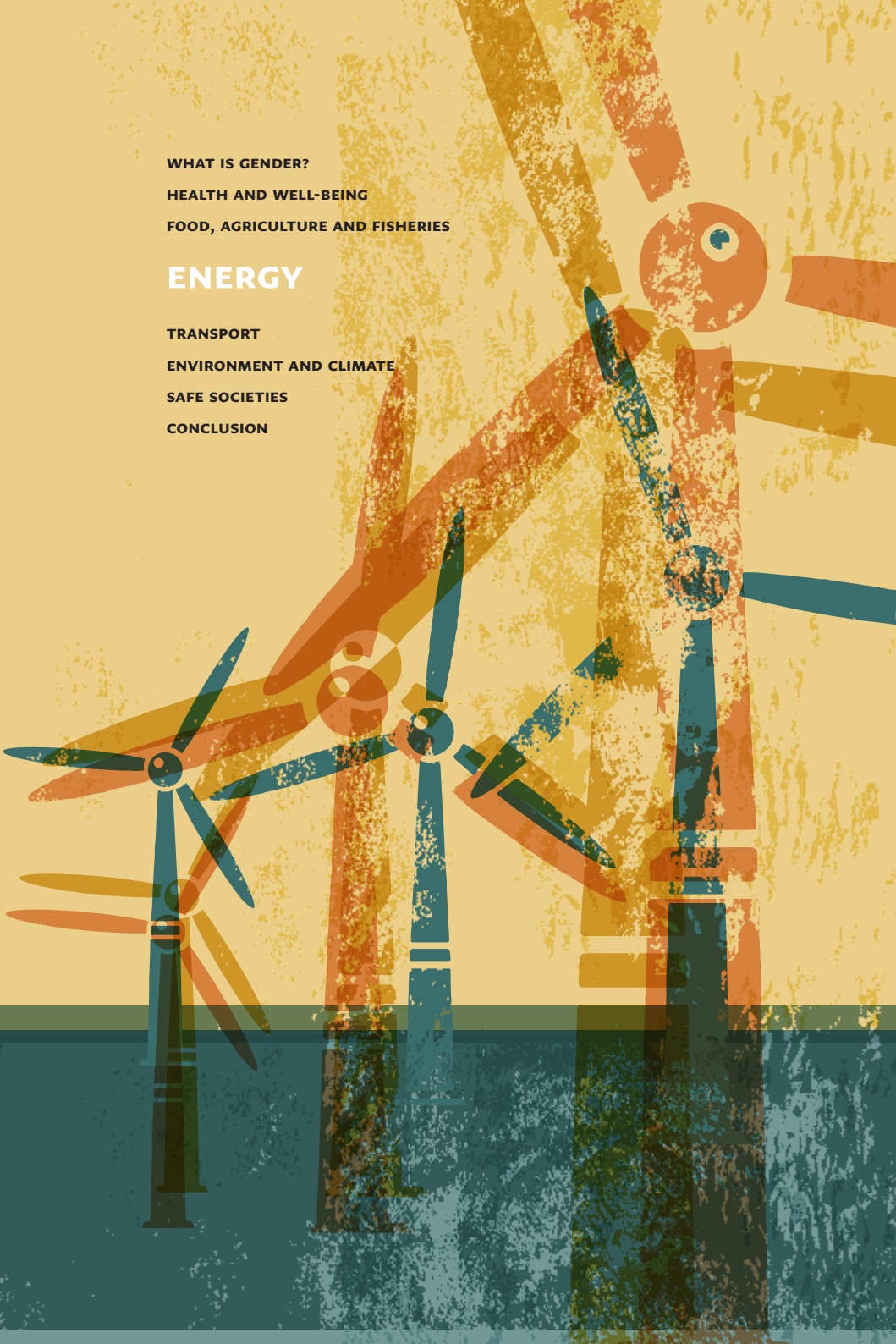
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ENSURING UNIVERSAL ACCESS TO affordable, reliable and modern energy services and to substantially increase the share of renewable energy constitute the UN's 7th Sustainable Development Goal. Around 1 billion people in the world have no access to electricity, while at the same time there is a significant overconsumption in industrialized countries. The European Commission and national research financing institutions prioritize research that, on the one hand, contributes to electrification in areas where this is lacking, and, on the other hand, helps to reduce energy consumption by developing low-emission energy systems.

THE GENDER DIMENSION IN ENERGY RESEARCH

Energy implies social aspects such as access to energy resources, energy needs and energy consumption, as well as conditions of production and decision-making. The social character of the energy sector makes the gender dimension relevant in energy research. Nevertheless, so far the gender dimension has been most common in energy research in the Global South. In this research, the aim is to improve the energy systems so that both women and men can make use of them. For example, studies have investigated how women's participation in energy production can help to empower women in local communities (UN WOMEN & UNEP 2015).

With regard to energy research with empirical evidence from the Global North, European researchers have studied the gender dimension in areas such as energy consumption in households, energy saving and decision-making in the production of energy (Clancy and Roehr 2003; Schultz and Stuess 2009; Rätty and Carlsson-Kanyama 2010; Anfinssen and Heidenreich 2017). Energy research that takes the gender dimension into account has a great potential for further development and may include questions such as:

- In which ways is energy consumption gendered? Can energy saving programmes have different effects for women and men? How does gender interact with other features such as age, employment, income level, family relationship and geographical location?
- Does the underrepresentation of women in the energy sector, in terms of both production and decision-making, have any impact on the transition to more sustainable energy systems?



WEALTHY MEN AND WOMEN CONSUME THE MOST ENERGY

A study of energy use in single households in Germany, Greece, Norway and Sweden shows that in all countries men's total energy consumption is higher than women's (Rätty and Carlsson-Kanyama 2010). Although women use more energy than men on cooking, hygiene and household items, men use far more energy on travelling, eating in restaurants, alcohol and tobacco. The gender differences are largely due to the average single man spending more money on cars, vehicles and fuel than the average single woman. (See also the chapter on Transport).

The study also shows that when the data are corrected for income, the gender difference almost disappears. The case of Germany

illustrates this finding: In total, single men consume on average 37 percent more energy than single women every year. However, in the highest income category, single men consume only 2 percent more energy than single women, and in the lowest income category, the gender difference is even smaller, only 1 percent. Within the category of men, the highest income group consumes 144 percent more energy than men from the lowest income group (Rätty and Carlsson-Kanyama 2009). This case illustrates the importance of analysing gender in the context of other factors, such as income. The gender differences in energy consumption among singles are largely due to men having a higher income on average than women.



ENERGY SAVING IS NOT GENDER NEUTRAL

Households account for about a quarter of the total energy consumption in Europe. Thus, households are distinct targets for energy efficiency. Studies from different European

countries show that more women than men are willing to change their habits to save energy by, for example, driving less, eating less meat and saving electricity by lowering the indoor

temperature or washing clothes at lower temperatures ([Carlsson-Kanyama and Råty 2008](#) [in Swedish]).

A study from Sweden investigated the impacts of energy saving programmes on the allocation of domestic tasks. The researchers found that the measures lead to an increased workload for women, e.g. in connection with

laundry. In addition, women were more negatively affected by lower indoor temperatures than men. Hence, to avoid increasing the workload for women and decreasing their quality of life, the researchers concluded that energy saving programmes must take the gender dimension into account ([Carlsson-Kanyama and Lindén 2007](#)).



ENERGY POVERTY

A common method of reducing energy consumption is through increased electricity prices, which obviously has unfortunate consequences for people with low incomes. In the EU, it is estimated that more than 50 million households experience energy poverty ([European Commission 2018](#)). Energy poor households have a lack of satisfactory heat, cooling, lighting and energy to power appliances, which negatively affects people's health and well-being. Consequences of energy poverty are respiratory and cardiac illnesses, and even death, as well as mental health problems due to low temperatures and stress associated with unaffordable energy bills.

Several European studies of gender and energy poverty show that single women with low incomes – typically single mothers and retired older women with minimum pensions – are particularly vulnerable to energy poverty ([European Parliament 2017](#), [Pijuan 2017](#) [in Spanish]). In addition to economic factors related to low income, women's overrepresentation among the energy poor also has a biological or physiological component. Age influences how people deal with heat and cold stress, with young children and older people being particularly vulnerable. Women live longer than men, often as widows, and are generally more sensitive to ambient temperature than men.



ELECTRICITY SAVES LIVES

Lack of electricity has severe health consequences, not least for women and girls in the Global South. Fossil fuels such as oil lamps pollute the indoor air and increase the risk of fire. In many countries women and girls spend hours each day carrying water and firewood, which causes back injuries, pregnancy complications and increased

maternal mortality. For girls, spending hours each day collecting water and wood prevents them from going to school. Also, during long walks to get water, particularly when they must walk alone before or after daylight hours, girls and women are vulnerable to rape and violent attacks.

A study on how electrification affects gender

relations in rural areas in India and Afghanistan finds that electricity improves the living conditions of households but does not necessarily empower women. On the contrary, electrification can reinforce women's roles as care workers attached to the home. However, when women have been recruited for training in solar cell technology, their participation in and influence

on decision-making in the home and the local community have increased. The study concludes that ambitious energy politics and practices are important for promoting gender equality. Such politics, however, must address power structures and include women, not only as consumers but also as producers (Standal and Winther 2016; Torp 2016).



MALE BIAS IN ENERGY PRODUCTION

Energy production is characterized by male dominance in the workforce, in research and in decision-making. In the petroleum and gas industry in Norway, for instance, 81 percent of the top managers are men (CORE 2018). The consequences of the gender imbalance in energy production are uncertain, but since studies in other business sectors have found that diversity enhances innovation and creativity, researchers have suggested that environmental policies would benefit if women became more involved in energy production. The transition to sustainable renewable energy systems may be an opportunity to facilitate a greater involvement of

women (Pearl-Martinez and Stephens 2016).

However, increasing the number of women in energy production does not necessarily change the policies, as illustrated by a study of creativity and implementation of new ideas in a large Norwegian energy corporation. In the study, the researchers found that the female employees' ideas were not implemented to the same degree as the ideas of male employees. Thus, the researchers argue that gender equality is not just about increasing the number of women in the workforce, but that more attention should be paid to women's innovations in male-dominated corporations (Foss, Woll and Moilanen 2013).

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TRANSPORT ACCOUNTS FOR AROUND 20 percent of the world's total energy consumption and is among the sectors that contributes the most to greenhouse gas emissions. The EU and the US are responsible for about half of the world's total consumption of transport-related energy (Oldrup and Breengaard 2009). To achieve the UN's 11th Sustainable Development Goal, to make cities and communities "inclusive, safe, resilient and sustainable", there is a need for interdisciplinary research on how to develop more resource-efficient, climate and environmentally friendly, safe and seamless transport systems for the benefit of all citizens (European Commission 2018-2020). Cars cause a large amount of greenhouse gas emissions; hence, it is a goal to reduce the individual use of cars by improving collective transport systems and facilitating cycling and walking.

Transport has to do with the organization of everyday life. Different transport practices and mobility patterns are linked to factors such as socio-economic and geographical conditions, as well as to technology and infrastructure. Transport practices are also influenced by cultural and ideological perceptions related to consumption and status, as well as by living standards, levels of affluence and wealth, lifestyles, tastes and habits of individuals (Anfinsen and Heidenreich 2017). The interaction between structural, cultural and social factors in terms of mobility patterns suggests that the gender dimension is relevant in transport research.

THE GENDER DIMENSION IN TRANSPORT RESEARCH

There are numerous studies from different countries in the Global North showing that men and women - on average - have different transport patterns: Men generally drive cars more often than women, and they take longer trips. Men drive their own cars more often, while women are more likely to be passengers. Women

habitually travel more collectively and walk more than men do. While a typical ride for men is between home and the workplace, women often drive to multiple destinations, such as home - kindergarten - workplace - kindergarten - grocery store - home. Women more often transport children for leisure activities in the neighbourhoods. There are also gender differences in attitudes towards transport, where women tend to be more critical of car use for the sake of the environment (Polk 2003; Polk 2004; Hjørthol and Kjørstad 2006 [in Norwegian]; Transgen 2007; Jakobsson Bergstad et al. 2009 [in Swedish]; Hanson 2010; Miralles-Guasch et al. 2016; Simićević et al. 2016).

Gender differences in transport patterns result from structural and cultural factors. On average, men have higher incomes than women, and thus have greater opportunities to buy and drive cars. Women usually take greater responsibility for the day-to-day organization of family life and more often work part-time at workplaces closer to home. Culturally and symbolically, the car is masculine-coded: Control over technology and fascination for motors and speed are culturally linked to masculinity. On the other hand, the cultural notion of femininity towards cars relates to safety and user-friendliness.

The present research findings about gendered transport patterns can form the basis for further questions, such as:

- How can research contribute to the development of effective and environmentally sustainable transport systems that are adapted to all population groups? How does gender interact with other variables such as age, place of residence, employment and income level? Which means are most effective for decreasing the use of cars without punishing low-income groups and people living in rural areas?
- To what extent do transport policies have different effects on women and men? What significance does the strong underrepresentation of women in the sector's decision-making bodies have for the planning and implementation of sustainable transport systems?



SHORT COMMUTING DISTANCE PROVIDES MORE FULL-TIME EMPLOYMENT FOR WOMEN

In a study using data from the Norwegian Travel Survey, the researchers found a correlation between weekly working hours and commuting distance in families in which both parents are in paid work. While having small children does not lead to a reduction in men's working hours or commuting distance, women adjust their labour market participation according to the family situation and where they live: Women with a short commuting distance tend to work full-time more often than women living in the periphery of cities (Hjorthol and Vågane 2014; Bergstrøm 2014). The reason is that women assume more responsibility for household tasks and child-rearing than men, even when working full-time. When attempting to reconcile work and family, partners negotiate weekly working hours, distance to their jobs, access to the family's transport resources, responsibility for transporting children, shopping for groceries and other household tasks.

The Norwegian study confirms international research showing that women adapt their labour market participation, both temporal and spatial,

according to the family situation more often than men. Thus, women with a long commute are more likely to work part-time than women who live closer to their workplace.

The researchers conclude that the "compact city", which offers the potential of shorter distances between services and workplaces than outlying urban areas, gives women better opportunities for longer working hours. However, it is worth noting that the study shows that women without small children did not find it necessary to have a shorter commute to work. Also, in couples where both worked full-time, the partners shared the responsibility of delivering and picking up the children more equally, whereas this was the woman's responsibility in couples where the man worked full-time and the woman worked part-time. Hence, it is necessary to nuance the category of women: It is, above all, mothers of small children and women in less equal couples who are more dependent on living in a "compact city" with a short commuting distance if they want to work full-time.



MASCULINE CAR CULTURE?

Does the traffic environment represent a sort of battlefield where male drivers use violence and aggression to claim and demand their right to space in traffic at the expense of cyclists, pedestrians and their own safety? Such goes the argument by bicycle researcher Dag Balkmar. He points out that more men than women expose other road users to danger. Historically, the car

is masculine-coded, and sometimes masculinity is expressed through aggressive performance in traffic and risky driving. In the hierarchy of traffic, the car is the king of the road, a position which is maintained by motorists. Politicians are reluctant to challenge the position of the car because motorists' right to traffic space is commonly seen as indisputable. According

to Balkmar, it is difficult to get people to drive less and cycle more when cycling is viewed as unsafe. Public awareness campaigns to promote

environmentally sustainable cycling are not sufficient as long as cycling is so risky (Balkmar 2014 [in Swedish]).



CONFLICT BETWEEN GENDER EQUALITY AND ENVIRONMENTAL PROTECTION?

Driving a fast car offers a form of freedom that men enjoy more than women. Women's lesser mobility than men can be regarded as an equality problem (Hanson 2010). However, from an environmental point of view, it is not desirable that women imitate men's transport patterns by driving cars more often. Transport researchers have argued that it is women's travel patterns, with more use of public

transport and more walking, that should be the norm, i.e. that men adopt women's travel patterns rather than the other way around (Polk 2009; Kronsell, Rosqvist and Hiselius 2016). However, to get people to drive less, the infrastructure must be adjusted so that there are shorter distances between jobs, housing, day care centres and schools, and the price of public transportation is lower.



DIFFERENCES BETWEEN MALE AND FEMALE CYCLISTS?

Research from different countries shows that there are differences between men's and women's cycling habits, but that these gender differences vary widely between countries. In cyclist-friendly countries such as Denmark, the Netherlands and Germany there are no significant gender differences, whereas in countries such as Australia, the UK and the US, far more men than women use a bicycle (Pucher and Buehler 2008). In Norway, men generally cycle more than women and are overrepresented among the workout cyclists. Women usually ride shorter distances and use bicycles for different purposes than men (Øistad 2015).

There are various explanations for why there are gender differences in cycling patterns. One is that topographical conditions, such as steep hills, are a bigger obstacle for women because

they have less muscle mass than men. Another explanation is that there are gender differences in risk perception. Men take greater risks in traffic, and poorly adapted bike paths make it less inviting for women to ride. A survey from Oslo, Norway, confirmed that more women than men do not cycle because they think it is too dangerous. Measures such as higher traffic safety and less car traffic were more important for women than men, whereas more men than women said they cycle regardless of the condition of the bike paths. However, more women said that they would cycle more if they had a better bike (Oslo municipality 2016 [in Norwegian]).

Another survey of cyclists in the Oslo area shows that there are minor gender differences in risk perceptions among those who actually cycle (Tretvik 2015 [in Norwegian]). When asked

about how safe or unsafe they felt when cycling in different parts of the city, 12.2 percent of men and 14.1 percent of women responded that they had felt unsafe in traffic. Far more important than gender was the age of the cyclists and the

location where the cycling took place. Elderly cyclists generally felt much more unsafe than the younger ones, and, as expected, cyclists perceived a greater lack of safety in areas with a lot of traffic and poorly developed bike paths.

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THE UN'S 13TH SUSTAINABLE Development Goal is to “take urgent action to combat climate change and its impacts”. Other SDGs address the conservation of natural diversity and ecosystems on land and in water and the sustainable use of the global natural resources. In order to meet these goals, the European Commission calls for research that aims to achieve a resource efficient and climate-change resilient economy and society (European Commission 2018-2020). More research and innovation are needed to achieve the conversion to climate-friendly, low-emission communities. This includes developing new technologies that reduce climate emissions, but there is also a need for more comprehensive, interdisciplinary climate research on how different areas of society can reduce emissions and adapt to climate change. Such an approach to environment research emphasizes the connection between nature, ecosystem services (i.e. the various benefits people obtain from the natural environment), land use, pollutants, and human health and well-being. The interdisciplinary, comprehensive approach to climate and environmental research indicates that the gender dimension is relevant.

THE GENDER DIMENSION IN CLIMATE AND ENVIRONMENTAL RESEARCH

Like much of the research on energy and food production, the gender dimension in climate and environmental research has tended to concentrate on women in the Global South because women are particularly vulnerable to climate change (UN Women 2015). In many communities, women and girls are responsible for collecting water, and during severe droughts and water shortages they must walk long distances, leaving them less time for other tasks such as schooling and exposing them to greater risk during the long walks (see also the chapter on Energy). During flood disasters, more women than men drown, either because they have not learned how to swim,

because they wear clothing that prevents them from swimming, or because they are afraid to leave their homes.

Within the research area of gender, climate and environment, there are studies that explicitly aim to promote justice and more equitable societies. One example is participatory action research on how women in communities in the Global South who are affected by climate change can be involved in environmental work and thereby gain a stronger position in the local community (APWLD 2015). (See also the chapter on Safe societies.)

Currently, the gender dimension is included to a lesser extent in research on how communities in the Global North can adapt to climate change and become more resource-efficient through reductions in climate emissions, transition to low-emission houses, “green” economies and “green” jobs. Relevant questions may be:

- To what extent do measures to reduce greenhouse gas emissions affect men’s and women’s lives differently? How can researchers take gender differences concerning the allocation of tasks and responsibilities into consideration without contributing to the reinforcement of gender stereotypes? What are the social differences within the groups of women and men regarding class, income, work situation, education, age, geographical location and opportunities for climate adaptation?
- How can measures to reduce greenhouse gas emissions enable collective solutions at the community level, rather than assign the main responsibility to individuals and their ability to change their personal consumption? How can we avoid low-income groups from being negatively affected by climate action measures?

Research on environment and climate also addresses natural resource management and conservation of biodiversity. In the last few years, there have been several studies of natural resource management and participation in outdoor life through the lens of gender, and some of these cases are presented in this chapter.



GREEN ECONOMY AND GREEN JOBS

The transition to a “green economy” involves a drastic reduction in pollution, greenhouse gas emissions and other environmental risks. At the same time, the goal is to enhance social equity and improve human well-being. As stated in the UNEP Green Economy Report: “In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive” (UNEP 2011).

Environment-friendly solutions, renewable energy, recycling, refining and purification of materials create new “green jobs”. According to the UN, green jobs are important for solving global problems related to the environment and climate change and for contributing to economic development, poverty eradication and social inclusion. Green jobs provide opportunities for decent work for all (ILO 2015). Decent work is defined by the UN as comprising a fair wage

level, safe working conditions and opportunities for personal development and social inclusion. Moreover, decent work includes employees’ right to state their opinions, organize themselves and participate in decisions. An overall principle is that women and men must have equal opportunities at work. This understanding of the green economy and green jobs signifies that social dimensions, such as gender, are imperative in research on the transition to green societies.

The concept of “green jobs” creates associations to nature and environmental friendliness, but many of the green jobs are quite dirty. For example, green jobs include the cleaning of sewage and recycling of waste from the petroleum industry. Bearing the UN’s goals in mind, how can research and innovation help to achieve a green economy that includes social inclusion and equalization, justice and improved quality of life?



“SMART” ENERGY TECHNOLOGIES AND “SMART” MEN

To achieve more sustainable energy consumption, there is extensive research on the development, testing and application of “smart” energy technologies. “Smart” energy technologies use ICT to gather information about consumers’ energy consumption so that they can customize their consumption according to the efficiency and economy of the power supply.

Researchers from the Norwegian University of Science and Technology (NTNU) have investigated smart grid demonstration projects and

how participation in such pilot projects affects life in the household (Skjølsvold, Jørgensen and Ryghaug 2017). The study shows that the self-recruited participants typically are males with an interest in technology. When the new technologies come into use, the man of the household first uses the new technology to learn more about energy consumption and to optimize the household resource use by, for example, replacing old household appliances. Then he tries to establish new rules for how, when and why electricity could be used, by e.g.

lowering the heat and limiting when others in the household can shower, do the laundry and cook. This sort of control over family members to save electricity often leads to conflicts.

The study shows that “smart” energy technologies can be alienating and exclusionary. They can also increase social inequalities because they are adapted to people with the competence and financial means to invest in such technology. Thus, pensioners with minimum retirement

benefits and others with low incomes have higher electricity bills than the ideal “smart” consumers. To achieve a drastic reduction in energy consumption, it is necessary to develop technologies that do not exclude large segments of the population. In the development of “smart” technologies, more research is needed that considers the variations in the population in terms of gender, age, income level and technology competence.



HOUSEHOLD SOLAR SYSTEMS AND GENDERED PROSUMERS*

The aim of the EU-funded project ENABLE is to understand how people in Europe can turn to more sustainable, low-carbon and environmentally friendly renewable energy consumption. People’s energy choices in areas such as transportation, electricity use, heating and cooling are governed by economic motives, as well as by social factors such as culture and gender. A part of the project is a case study on “prosumers” in Norway, Italy, Serbia, the UK and Ukraine. Prosumers are people who have invested in household solar power plants and sell the produced surplus. The study pays particular attention to social and cultural factors behind the decision to become prosumers, emphasizing gender relations.

The motives for becoming prosumers varied across the five countries. In countries where feed-in tariffs have been put in place to make prosuming more attractive to residents, i.e. the UK, Italy and Ukraine, the prosumers were motivated by the financial as well as

the environmental benefits of producing their own renewable energy. In a country such as Norway, where the costs of installing solar systems are generally high, the prosumers were mostly motivated by environmental and technical interest. In Serbia, investment in household solar systems were motivated primarily by a lack of connection to the central grid supply.

Despite these differences, the study finds similar gendered patterns across all five countries: The men of the households were almost exclusively in charge of the process of becoming prosumers, and several women stated that household energy and solar technology were “his thing”. Only in three households were women in charge of the process, and these women all worked in the energy sector. In all five countries energy technology is perceived as a “male domain”. At the same time, women perform most of the energy-related domestic work. Laundry, in particular, was

*THIS TEXT IS LARGELY BASED ON KARINA STANDAL 2018: “HOUSEHOLD SOLAR SYSTEMS AND THE GREEN ENERGY TRANSITION – DOES GENDER MATTER WHEN HOUSEHOLDS BECOME PROSUMERS?”, CICERO. SOURCES: KARINA STANDAL ET AL. 2018. SYNTHESIS REPORT ON THE CASE STUDY “FROM CONSUMER TO PROSUMER.” ENABLE.EU REPORT.

almost exclusively women's responsibility in all five countries.

When developing energy policies, it is critical to conceptualize the gendered division of energy-related domestic work in a way that does not strengthen gender stereotypes. With solar systems, prosumers save money when they concentrate their energy consumption during the daytime. Combined with a traditional, gendered division of labour in which women do most of the energy-consuming domestic tasks, an unintended consequence may be to reinforce gender inequalities.

The study on energy technology and prosumers illustrates how including the gender dimension shines a light on inequalities other than gender. All the interviewees owned their own homes and had a rather high social status because investment in technology that lowers household energy costs still requires financial means and knowledge. Thus, those who would truly benefit from lowering their energy costs, the energy poor, cannot afford investing in cost-effective, sustainable technologies and must deal with more expensive solutions (Standal 2018). (See also the chapter on Energy.)



NATURAL RESOURCE MANAGEMENT AND GENDER

Decisions on natural resource management are important for communities and often give rise to conflict. Because there are many conflicting interests, it is important that the management of forests, mountains and wilderness has democratic legitimacy. In research on land use and management of natural resources in developing countries, the gender dimension is frequently applied because development organizations view women's participation in natural resource management as important. For instance, the involvement of women in natural resource management is a key principle in Norwegian development policy in the Global South. Nevertheless, as noted by Hanne Svarstad, a professor of development studies: "In Norway, we point to the lack of gender equality within natural resource management in Africa, but there has been little willingness to do the same in our own country" (Lilleslåtten 2017).

In a study on ensuring legitimacy in

Norwegian natural resource management, Aase Kristine Lundberg found that the interests of hunters, fishers, landowners, the tourist industry, hikers and environmentalists are all represented. However, these groups are by and large represented by men, and men take the decisions. According to Lundberg, natural resource management in Norway is controlled by Norwegian men above the age of 50 (Lundberg 2017).

The impact of male dominance in natural resource management in the Global North has received little attention by researchers. Few gender researchers study the use of nature, and few scholars in natural resource management incorporate gender perspectives in their research. More research is needed on whether other interests or other voices are not heard or not considered as relevant because they are not represented in the forums where the decisions on the use and protection of natural resources are taken.



EVERYDAY OUTDOOR RECREATION AND GENDER

BY MARGRETE SKÅR, SENIOR RESEARCHER, DEPARTMENT OF MAN-NATURE RELATIONSHIP, NORWEGIAN INSTITUTE FOR NATURE RESEARCH (NINA)

A general observation about outdoor recreation in Norway is that it involves activities such as fishing, cross-country skiing, hunting and mountain walking – activities “out in the wilderness” and far away from home. This understanding of outdoor recreation has also defined Statistics Norway’s longstanding surveys on people’s outdoor activities. These statistics show a gendered pattern of outdoor recreation: Men are overrepresented in activities such as hunting, fishing and long walks in the wilderness, whereas women are overrepresented in activities such as berry picking and shorter walks in the woods and fields.

I consider it essential to expand the concept of outdoor recreation to include everyday outdoor recreational activities such as walking, which often take place partly in nature and partly in developed environments in neighbourhoods. By focusing on outdoor recreation in neighbourhoods, the research needs to include people’s experiences of nature in the context of their daily lives and the socio-cultural conditions shaping them. Qualitative research on outdoor recreation

in neighbourhoods shows some gendered patterns, but this is a field of research where knowledge is lacking. The men we have interviewed emphasize the importance of having a goal for their walking, such as exercising, fishing or hunting, and many of them say that they would find it quite strange to ask a male friend to go for a walk. In contrast, many women say that their daily walk – often with female friends – is very important to their health and well-being. However, the walks may be difficult to prioritize in a busy everyday life.

Increasing the population’s daily walking is a way to promote public health and reduce air pollution. Thus, insights from studies that include people’s various needs and gains related to everyday walking are useful to policy-makers and administrative bodies within the field of health policy, as well as in urban planning for walkable cities. As men and women have somewhat differing outdoor recreation patterns, it is vital to include the gender dimension in research and innovation that aims to develop tailored measures for promoting more daily walking (Rybråten, Skår and Nordh 2017).

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SAFEGUARDING SOCIETIES AGAINST NATURAL and human-made disasters is a relatively new field of study that since the turn of the millennium has received increasing political priority internationally.* The field deals with the prevention, mitigation and management of risks, threats and crises. Enhancing the resilience of society requires more research on how to be prepared to deal with the unexpected, whether it is intentional acts such as terrorism and crime, or accidents and natural disasters. There is a need for research on how society can identify, understand and prevent risks and threats, and how crises can be dealt with after they have occurred.

Societal safety constitutes a cross-disciplinary field of research that involves various academic disciplines, including social sciences, humanities, health sciences and technology. Examples of research on societal safety range from mapping the consequences of hacking attacks in the energy sector and technical solutions related to tunnel safety, via the prevention of extremism and terrorism, human trafficking and sexual violence, to the coordination of international humanitarian operations and peace-building mediations (European Commission 2018-2020). Research and innovation activities to protect citizens and societies, including infrastructure, services and political stability, resonate with the UN's 16th Sustainable Development Goal to promote peace, justice and strong institutions.

THE GENDER DIMENSION IN RESEARCH ON SOCIETAL SAFETY

According to the EU Commission, the gender dimension is relevant in research on societal safety. Despite increasing awareness of how risk, safety and vulnerability may

*THE INTRODUCTION TO THIS CHAPTER WAS WRITTEN IN COLLABORATION WITH KRISTIN SØRUNG SCHARFFSCHER, DEPARTMENT OF SAFETY, ECONOMICS AND PLANNING, UNIVERSITY OF STAVANGER AND TORUNN L. TRYGGESTAD, CENTRE ON GENDER, PEACE AND SECURITY, THE PEACE RESEARCH INSTITUTE OSLO (PRIO).

have different implications for men and women, boys and girls, there are still not many research projects within societal safety in the Global North that have included the gender dimension. Relevant research questions may be:

- How do cultural and social norms of gender and sexuality govern behaviour related to societal challenges, such as migration and border control, accident prevention, road traffic safety and crisis management? What are the implications of gender relations in the armed forces?
- By what means can humanitarian aid be better organized so that the needs of both men and women, boys and girls, are met? How can sexual abuse and rape in conflict and disaster-affected areas be prevented?
- In which ways are extremism and terrorism related to gender? Is there a connection between masculinity and violence? Why are women joining extreme right-wing and Islamist terrorist groups that promote misogynist ideologies? How can gender analysis help us to understand how violent extremism can be prevented?



MEN ARE ALSO RAPED IN WAR

After the civil war in the former Yugoslavia, the international community became more aware of how rape of the enemy's women is used as a strategic weapon in war. Later, a number of international campaigns were launched against war-related rapes in the Democratic Republic of the Congo. However, to understand the context of wartime sexual violence, it is not sufficient to conduct research only on the women who have been raped; it is also necessary to study the men who commit rape, as well as the men

who are raped. A study from the civil war in Uganda shows that 30 percent of the victims of sexual violence were men (Lilleslåtten 2017). Files from the International Criminal Tribunal for the former Yugoslavia (ICTY) reveal that of the 30 convictions of sexual violence during the civil war, seven cases involved male victims and male perpetrators (Houge 2014).

To combat sexual violence in war and conflict, it is essential to see beyond gender stereotypes and oversimplified perceptions of

gender roles in war. Men and women do not constitute homogeneous groups; men are not always the perpetrators and women are not always the victims. It is necessary to see every conflict situation in context. For example, in the former Yugoslavia sexual violence was used as part of a war strategy, whereas in other places sexual violence has occurred during chaotic situations, but without being sanctioned. Research in the field of women, peace and security has shown that

overgeneralizations, such as assuming that women by nature are more peaceful than men, can enhance already existing gender inequalities (Kilden / The Research Council of Norway 2017). According to Élise Féron, who has carried out fieldwork in the Great Lakes Region of Africa, wartime sexual violence against men stems from the same logic underpinning sexual violence against women, a logic that upholds and reinforces gendered social hierarchies (Féron 2018).



GENDER EQUALITY, DIVERSITY AND SOCIETAL SECURITY

The Nordic research project Gender Equality, Diversity and Societal Security (2018-2021) explores how increasing levels of diversity in the personnel of Nordic security forces, i.e. the army, the police and other security organizations, relates to changing perceptions of trust and security, both within these organizations and in their broader interactions with society.

The Nordic countries are traditionally associated with high levels of societal trust, egalitarian values, and peaceful forms of conflict resolution through cooperation within and among political and corporative organizations. These characteristics also constitute the underpinnings for the ways in which security work is perceived

and conducted in a Nordic setting, which is manifested in recent reforms that introduced conscription on formally equal terms for men and women in Norway and Sweden.

The project combines empirical studies of Norway, Sweden, Denmark and Finland, with the aim of providing new knowledge about how actors and organizations in the field of societal security in the Nordic region relate to increasing diversity in security forces in terms of attitudes, guidelines and everyday practice. In addition, the project will investigate the effects of an increasingly diverse composition of the security forces, including within related policy- and decision-making processes (STK 2018).



WOMEN'S CONTRIBUTION TO INFORMAL DISASTER RESPONSE

BY KRISTIN SØRUNG SCHARFFSCHER, DEPARTMENT OF SAFETY, ECONOMICS AND PLANNING, UNIVERSITY OF STAVANGER, NORWAY

In the aftermath of the tsunami on December 26, 2004, international relief workers arrived at the lagoon town of Batticaloa, on the east coast of Sri Lanka. Some four years prior, the UN

Security Council had adopted Resolution 1325, which urges all UN organisations to respond to women's needs and recognize women's resources in all UN-controlled humanitarian

activities. Manuals and guidelines on how to include the gender dimension in humanitarian operations were put in place, and throughout the 2000s the proportion of women in the UN system had increased considerably – at least in the field.

The lagoon town of Batticaloa in Sri Lanka was severely affected by the tsunami. Thousands of humans and farm animals died, there was major material devastation, and entire neighbourhoods found themselves without housing. The international community sent vast amounts of money, large quantities of equipment, and numerous personnel to assist in Batticaloa. However, in this small eastern town, several strong networks of women were already operative, having organised local relief work immediately after the tsunami to help those affected. These networks met regularly and had detailed knowledge of everything from functional means of transportation to which widowed fathers experienced alcohol problems or who would benefit from training in housework

and childcare. The networks also created a soup kitchen, where women from different ethnic and religious groups came together to prepare and distribute hot meals. This was not mere relief work. It was also about re-establishing contact, mutual understanding and solidarity after 20 years of civil war.

The women of Batticaloa were experts on how emergency operations can be efficiently provided, how to reach those who need it the most, and how humanitarian aid may even work as reconciliation and peace-building mediation. However, the women of Batticaloa were neither consulted nor invited to the meetings organized by the UN. The few of them who attempted to establish contact with the international aid agencies had to cope with meetings that were exclusively held in English, and with social norms and rules of a Western character. The result was that local efforts in Batticaloa were undermined and partly dismantled by the good intentions of international relief (Scharffscher 2011).



DID YOU KNOW?

WOMEN DEVELOP POST-TRAUMATIC STRESS DISORDER (PTSD) TWICE AS OFTEN AS MEN AFTER TERRORIST ATTACKS.

In the aftermath of the terrorist attack on the Norwegian government building in Oslo on July 22, 2011, researchers interviewed people who were affected by the bombing. Ten months later, 12 percent of men and 31 percent of women had symptoms of PTSD (Birkeland et al., 2017). The study confirmed international research showing that a significantly greater proportion of women than men get PTSD, even when they have experienced the same life-threatening event, such as an earthquake.

Why is it so? The gender differences can be explained by biological and social factors (Løvereide 2018 [in Norwegian]). Because PTSD often entails reliving the trauma, one reason why women are more likely to get PTSD may be that on average they remember more details than men. Hormonal cycles can also affect how events are interpreted. At the same time, it is more culturally acceptable for women to show their emotions, while men are more often socialized to be tough and not show feelings of “weakness”, and are thus more reluctant to seek

professional help. Hence, more men may suffer from PTSD than the number who are diagnosed with the condition.

Psychological research also shows that a traumatic experience is reinforced by previously experienced trauma. For example, a person who has experienced sexual abuse or violence from someone close is more vulnerable to PTSD after other types of traumatizing events. Also, it is

perceived as worse to be exposed to trauma that other people have perpetrated intentionally than to be exposed to an “impersonal” accident. Therefore, people exposed to family violence have PTSD more often than soldiers in war. To give people adequate treatment after traumatic experiences, it is important to consider both sex and gender differences in research on PTSD symptoms.



FAR-RIGHT WHITE SUPREMACIST GROUPS AND GENDER

A great deal of research on far-right movements shows a connection between racism and conservative attitudes about gender. However, views on gender roles and women vary greatly among the various far-right extremist groups. According to Kathleen Blee, a professor of sociology at Pittsburgh University and a specialist in far-right racist groups in the US, racism is often connected to misogyny. On the other hand, racism has also been used to promote women’s rights, as the Ku Klux Klan did when they advocated for women’s suffrage as a way to make up for the votes of black men in the early 1900s. Also, there are significant differences between far-right groups in the US and Europe. One deals with the tendency of some European nationalist groups to claim that “our” gender equality is threatened by Muslim oppression and homophobia, even organizing their own anti-Islamic far-right LGBT sections. This “homonationalist” current is less prevalent in the US ([Lilleslåtten 2018](#) [in Norwegian]).

Far-right groups are generally male dominated. While it is estimated that approximately 20 percent of the members of Ku Klux Klan and neo-Nazi groups are women, their role in these groups is less visible. Kathleen Blee has specifically investigated the role of

women in far-right extremist and neo-Nazi groups in the US, their motivation for joining them and also for leaving them. Recruitment to far-right groups usually takes place through personal relationships, and women and men have somewhat different motivations. Often, women are attracted to the groups through a personal connection, or because they are promised the power and influence to make a difference on behalf of women, as well as on behalf of the family.

Within far-right white supremacist groups, women may have important roles related to organizing and recruitment. Since men usually have the visible positions, women’s roles in the extremist groups are often underestimated. During police interventions in violent situations, only the men are usually arrested, while the women are sent home because they are thought to be “just” the girlfriends. According to Blee, women participate more in the planning of crime than in the violence itself, but it is possible that they perform more violence than the police assumes.

To reduce the threat that the far-right poses to democratic and safe societies, it is just as important to understand why

people exit them as to know why they join. In a study of former white supremacists in the US, Blee and her colleagues found that for most women, leaving is a three-step process: becoming disillusioned, imagining

that leaving is feasible, and seeing life on the outside as possible. Often, women first become disillusioned because of a conflict with other members (Blee, Simi, Latif and DeMichele 2018).



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INCLUDING THE GENDER DIMENSION in research is one of six key priorities of the European Research Area (ERA), and the European Commission encourages researchers to include the sex/gender dimension in grant proposals when relevant. Being aware of the ambiguity surrounding the question of when the sex/gender dimension is relevant, the aim of this booklet is to demystify what gender perspectives may imply. We have done so by providing cases of how gender, as one of several dimensions, can improve the quality of research within fields such as health and quality of life, food, agriculture, fisheries and bioproduction, energy, transport, environment and climate, and safe societies. Our selection of cases is far from exhaustive, but will hopefully provide ideas for how to include the gender dimension within other research fields as well. A quote that appeared when we worked on the Norwegian edition of this book may be inspiring for those who wonder when the gender dimension is relevant: “We assume that the gender dimension is useful when research has or may have consequences for people.” This simple, yet comprehensive reply came from Øystein Thøgersen, an economist and head of the Norwegian School of Economics (NHH).

Gender perspectives are not always relevant, and there is no right or wrong answer to what gender perspectives are. Some might think that the sex/gender dimension or gender perspectives are reserved for scholars with a particular interest in this area. However, as this booklet shows, the sex/gender dimension in research may involve different theoretical and methodological approaches. Gender researchers have emphasized that the sex/gender dimension is not equivalent to counting the number of women and men. Neither does it imply a special emphasis on the differences between men and women. To ensure that the sex/gender dimension is adequately incorporated into research projects, it is essential to investigate how gender relations work in different contexts and in intersection with other variables, such as age, income level, education, ethnicity, geographical position, and so on.

Some scholars argue that critical theory which questions power relations is imperative in studies that include gender. However, researchers who address the gender dimension have different opinions about the need to problematize power relations. By the same token, research is a process in which the researchers must continually pose critical questions about established paradigms and their own prejudices in order to gain new knowledge. It is essential to critically reflect upon one's own and others' often unconscious assumptions about gender, and not reproduce gender stereotypes when interpreting the data.

Kilden genderresearch.no encourages researchers to explore how gender has been addressed within different research traditions and academic milieus. In addition to reading this booklet, including the checklist on the following pages, please see our news magazine at <http://kjonnsforskning.no/en>. On this site you also find information about relevant research communities. Our staff is happy to assist researchers and others who are interested in learning more about the gender dimension in research.

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THE SEX/GENDER DIMENSION IN RESEARCH

RESEARCH IDEAS PHASE

- Have you considered how assessments of sex/gender, including stereotypes about what is considered “female” or “male”, can affect what you want to investigate, what questions you ask and how to answer them?
- Is sex/gender important for understanding the phenomenon you will investigate, and if so, how? Are there other dimensions that can be considered in relation to sex/gender, such as age, ethnicity, educational level, income, occupation, geographical location or technical competence?
- Have you reviewed literature and other sources relating to sex/gender in the research field?

PROPOSAL PHASE

- Does the project’s research topics and methods take the sex/gender dimension into account? Does the proposal explain how the sex/gender dimension will be handled?
- Are researchers trained in gender studies included in the research group?
- Have you considered whether the results of the research can have different effects on women and men, boys or girls? Can the research contribute to the advancement of gender equality?

RESEARCH PHASE

- Are research methods, such as questionnaires, focus groups, etc., designed in a way that considers possible sex/gender differences and similarities between gender? Will sex/gender-differentiated data be collected? Have you ensured that samples, test groups or other involved in the project are diverse in terms of sex/gender, age and other background variables?
- Will sex/gender be a variable in the analysis? Will other variables be included in relation to sex/gender in the analysis?
- Are unconscious (stereotypical) assumptions about sex/gender implicit in the interpretation of data? Are there dimensions other than sex/gender that are important to consider?

DISSEMINATION PHASE

- Is the sex/gender dimension included in the presentation of findings?
- If the sex/gender dimension is included, is it done in a way that does not reproduce stereotypical notions about gender, but also looks at variations within the gender categories?
- Have you considered that dissemination of the research findings can be directed towards networks, institutions, journals and conferences that address gender issues?

REFERENCES

- ADB (Asian Development Bank) & FAO 2013: Gender equality and food security. Women's Empowerment as a Tool against Hunger <http://www.fao.org/wairdocs/ar259e/ar259e.pdf>
- Albrektsen, Grethe, Ivar Heuch, Maja-Lisa Løchen, Dag Steinar Thelle, Tom Wilsgaard, Inger Njølstad & Kaare Harald Bonna 2017. Risk of incident myocardial infarction by gender: Interactions with serum lipids, blood pressure and smoking. The Tromsø Study 1979–2012. *Atherosclerosis*, 261, 52–59. <https://doi.org/10.1016/j.atherosclerosis.2017.04.009>
- Andersen, Synøve N., Bjart Holtsmark & Sigmund B. Mohn 2017. Kriminalitet blant innvandrere og norskfødte med innvanderforeldre [Crime among immigrants and Norwegian-born persons with immigrant parents]. Statistics Norway: Reports 2017/36. https://www.ssb.no/sosiale-forhold-og-kriminalitet/artikler-og-publikasjoner/_attachment/332143?ts=16035d6f0d8
- Anfinsen, Martin & Sara Heidenreich 2017. *Energy & gender - a social sciences and humanities cross-cutting theme report*. SHAPE ENERGY. <https://brage.bibsys.no/xmlui/handle/11250/2450223>
- APWLD 2015. *Grassroots Feminist Movements for Climate Justice in Asia-Pacific* Asia Pacific Forum on Women Law and Development (APWLD). <http://apwld.org/grassroots-feminist-movements-for-climate-justice-in-asia-pacific/>
- Balkmar, Dag 2014. Våld i trafikken. Om syklisters utsatthet for kränkningar, hot och våld i massbilens tidsvarv [Violent traffic. On cyclists' experiences of violations and threats in times of mass motorism]. *Tidsskrift for genusvetenskap*, 35 (2-3): 33–54. <http://www.diva-porta.org/smash/get/diva2:759463/FULLTEXT01.pdf>
- Bergström, Ida Irene 2014. Short commutes enable women to work full time. *Kilden genderresearch.no*. <http://kjonnsforskning.no/en/2015/09/short-commutes-enable-women-work-full-time>
- Bergström, Ida Irene 2015. "Heart disease is the number one killer of women in Norway", *Kilden genderresearch.no*. <http://kjonnsforskning.no/en/2015/10/heart-disease-number-one-killer-women-norway>
- Birkeland Marianne S., Ines Blix, Øyvind Solberg & Trond Heir 2017. Gender Differences in Posttraumatic Stress Symptoms after a Terrorist Attack: A Network Approach. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.02091>
- Blee, Kathleen, Pete Simi, Mehr Latif & Matthew DeMichele 2018. Why Do Women Leave the Far-Right? *Right now!* blog, Center for Research on Extremism, University of Oslo <https://www.sv.uio.no/c-rex/english/news-and-events/right-now/why-do-women-leave-the-far-right.html>
- Breimo, Janne Paulsen 2014. Koordinering og tilstedeværelse – om kjønne forventninger til pårørende i rehabiliteringsprosesser [Coordinating and being present – on the gendered expectations of family members in rehabilitation processes], *Tidsskrift for kjønnsforskning*, 38 (3-4): 235–252. https://www.idunn.no/ftk/2014/03-04/koordinering_og_tilstedevaerelse_-_om_kjoennede_forventninger
- Carlsson-Kanyama Annika & Riitta Rätty 2008. *Kvinnor, män och energi: makt, produktion och användning* [Women, men and energy. A study of power distribution in energy companies and energy use by women and men]. FOI, Swedish Defense Research Agency Stockholm. <https://doi.org/10.1016/201629-Kvinnor-man-och-energi-makt-produktion-och-anvandning.html>
- Carlsson-Kanyama, Annika & Anna-Lisa Lindén 2007. Energy efficiency in residences - Challenges for women and men in the North. *Energy Policy*, 35 (4): 2163–2172. <https://doi.org/10.1016/j.enpol.2006.06.018>
- City of Oslo 2016. *Holdningsundersøkelse om sykling i Oslo 2016* [Attitude survey on cycling in Oslo]. The Bicycle project. City of Oslo. <https://www.oslo.kommune.no/getfile.php/13132759/Innhold/Gate%2C%20transport%20og%20parkering/Sykkel/Sykkelstrategier%20og%20dokumenter/Undersokelser%20og%20rapporter/Rapport%20holdningsundersokelsen%202016.pdf>
- Clancy, Joy & Ulrike Roehr 2003. Gender and Energy: Is there a Northern perspective? *Energy for Sustainable Development*, VII (3): 44–50.
- Connell R. W. 1995. *Masculinities*. Polity Press.
- CORE 2018. *CORE – Norwegian Gender Balance Scorecard*. CORE Centre for Research on Gender Equality, Institute for Social Research. https://www.samfunnsforskning.no/core/bilder/core-topplederbarometer/core-topplederbarometer_pdf/core-norwegian-gender-balance-scorecard-2018.pdf
- Dietrichson, Susanne 2017. I front for et mer inkluderende helsevesen [Fronting a more inclusive health care], *Kilden genderresearch.no*. <http://kjonnsforskning.no/nb/2017/08/i-front-for-et-mer-inkluderende-helsevesen>
- Ekström, Marianne Pipping & Elisabeth L'orange Fürst 2001. The Gendered Division of Cooking. In Unni Kjaernes (ed.) *Eating Patterns. A Day in the Lives of Nordic Peoples*. SIFO Report No. 7: 213–235.
- European Commission 2014–2020. *Gender equality*. Participant Portal, Research & Innovation. http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/gender_en.htm
- European Commission 2018. *What is energy poverty?* The EU Energy Poverty Observatory (EPOV). <https://www.energypoverty.eu/about/what-energy-poverty>
- European Commission 2018–2020. *Climate action, environment, resource efficiency and raw materials*. Horizon 2020 Work Programme 2018–2020. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-climate_en.pdf
- European Commission 2018–2020. *Secure societies - Protecting freedom and security of Europe and its citizens*. Horizon 2020 Work Programme 2018–2020. <http://ec.europa.eu/research/>

participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-security_en.pdf

European Commission 2018–2020. *Smart, green and integrated transport*. Horizon 2020 Work Programme 2018–2020. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-transport_en.pdf

European Parliament 2011. *On the role of women in agriculture and rural areas (2010/2054(INI))*. Committee on Agriculture and Rural Development. <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A7-2011-0016+0+DOC+XML+V0//EN>

European Parliament 2017. *Gender perspective on access to energy in the EU. Study for the FEMM Committee*. Policy Department for Citizens' Rights and Constitutional Affairs. [http://www.europarl.europa.eu/RegData/etudes/STUD/2017/596816/IPOL_STU\(2017\)596816_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/596816/IPOL_STU(2017)596816_EN.pdf)

FAO 2011. *The State of Food and Agriculture 2010–2011: Women and Agriculture. Closing the Gender Gap for Development*. Food and Agriculture Organization of the United Nations (FAO). <http://www.fao.org/docrep/013/i2050e/i2050e00.htm>

FAO 2014. *The State of Food and Agriculture. Innovation in family farming*. Food and Agriculture Organization of the United Nations (FAO). <http://www.fao.org/3/a-14040e.pdf>

Féron, Élise 2018. *Wartime Sexual Violence against Men. Masculinities and Power in Conflict Zones*. Rowman & Littlefield International. https://www.rowmaninternational.com/book/wartime_sexual_violence_against_men/3-156-bc89f3bf-fc87-4aaf-b810-edf61015d18c

Fine, Cordelia 2010. *The Delusions of Gender*. W.W. Norton.

Foss, Lene, Kristin Woll & Mikko Moilanen 2013. Creativity and implementations of new ideas: Do organizational structure, work environment and gender matter? *International Journal of Gender and Entrepreneurship*, 5 (3): 298–322. <https://doi.org/10.1108/IJGE-09-2012-0049>

Hanson, Susan 2010. Gender and mobility: new approaches for informing sustainability. *Gender, Place & Culture*, 17 (1): 5–23. <https://doi.org/10.1080/09663690903498225>

Heggen, Reidun 2014. Exclusion and inclusion of women in Norwegian agriculture: Exploring different outcomes of the 'tractor gene'. *Journal of Rural Studies*, 34: 263–271. <https://doi.org/10.1016/j.jrurstud.2014.03.002>

Hjorthol, Randi & Katrine Næss Kjørstad 2006. *Likestilling i transport* [Gender equality in transport]. Institute of Transport Economics, TØI report 866/2006. <https://www.toi.no/getfile.php?mmfileid=4886>

Hjorthol, Randi & Liva Vågane 2014. Allocation of tasks, arrangement of working hours and commuting in different Norwegian households. *Journal of Transport Geography*, 54: 75–83. <https://doi.org/10.1016/j.jtrangeo.2014.01.007>

Holter, Øystein Gullvåg 2014. "What's in it for Men?": Old Question, New Data. *Men and Masculinities* 17 (5): 515–548. <https://doi.org/10.1177%2F1097184X14558237>

Holter, Øystein Gullvåg, Helge Svare & Cathrine Egeland

2009. Gender Equality and Quality of Life – A Norwegian Perspective. Nordic Gender Institute (NIKK) and The Work Research Institute (WRI). <https://www.nikk.no/en/publications/gender-equality-and-quality-of-life-a-norwegian-perspective-2009/>

Houge, Anette Bringedal 2014. *Sexualized War Violence: Subversive Victimization and Ignored Perpetrators*. In Inge Lander, Signe Ravn & Nina Jon (eds.). *Masculinities in the Criminological Field*. Routledge: 165–183.

Hoye, Anne 2012. *Schizophrenia: Gender differences in diagnosis and mortality in admitted patients*. Ph.D. dissertation, Faculty of medicine, University of Tromsø. <https://munin.uit.no/bitstream/handle/10037/4278/thesis.pdf?sequence=10>

ILO 2015. *Guidelines for a just transition towards environmentally sustainable economies and societies for all*. International Labour Organization http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf

IMAGES 2011. *Evolving Men: Initial Results from the International Men and Gender Equality Survey (IMAGES)*. Men and Gender Equality Policy Project. The International Center for Research on Women and Instituto Promundo. <https://promundoglobal.org/wp-content/uploads/2014/12/Evolving-Men-Initial-Results-from-IMAGES.pdf>

Jakobsson Bergstad, Cecilia, Amelie Gamble, Olle Hagman, Lars E. Olsson, Merritt Polk & Tommy Gärling 2009. *Bilens roll för människors subjektiva välbefinnande* [The role of car for humans' subjective well-being]. CFK report 2009:2, CFK Centre for Consumer Science, University of Gothenburg. <https://gupea.ub.gu.se/handle/2077/23166?locale=sv>

Jakobsson, Niklas, Andreas Kotsadam, Astri Syse & Henning Oien 2016. Gender bias in public long-term care? A survey experiment among care managers. *Journal of Economic Behavior and Organization*, 131, Part B: 126–138. <https://doi.org/10.1016/j.jebo.2015.09.004>

Keller, Evelyn Fox 2010. *The Mirage of a Space between Nature and Nurture*. Duke University Press.

Kilden/The Research Council of Norway 2017. *Overview of Women, Peace and Security projects: Strengthening women's role in research and knowledge development*. https://www.forskningsradet.no/prognett-norglobal/Gender_projects/1253964673448

Kronsell, Annica, Lena Smidfelt Rosqvist & Lena Winslott Hiselius 2016. Achieving climate objectives in transport policy by including women and challenging gender norms: The Swedish case. *International Journal of Sustainable Transportation*, 10 (8): 703–711. <https://doi.org/10.1080/15568318.2015.1129653>

Kuhar, Roman & David Paternotte 2017. *Anti-Gender Campaigns in Europe. Mobilizing against Equality*. Rowman & Littlefield International.

Lilleslätten, Mari 2017. A warning against desirable facts about women in peace and conflict. *Kilden genderresearch.no*. <http://kjonnforskning.no/en/2017/05/>

warning-against-desirable-facts-about-women-peace-and-conflict

Lilleslåtten, Mari 2017. Men control Norwegian nature, *Kilden genderresearch.no*. <http://kjonnforskning.no/en/2017/12/men-control-norwegian-nature>

Lilleslåtten, Mari 2018. Siri Gerrard: Kvinneblikk på kystlivet i nord og sør [Siri Gerrard: women's perspective on coastal life in the North and South], *Kilden genderresearch.no*. <http://kjonnforskning.no/nb/2018/01/siri-gerrard>

Lindstad, Siri 2009. "My car needs diesel and I need food", *NIKK magasin 2*: 8-11. <https://www.nikk.no/wp-content/uploads/NIKKmag20092.pdf>

Lundberg, Aase Kristine Aasen 2017. *Handling legitimacy challenges in conservation management: case studies of collaborative governance in Norway*. Ph.D. dissertation, Norwegian University of Life Sciences. https://www.researchgate.net/publication/320946905_Handling_legitimacy_challenges_in_conservation_management_case_studies_of_collaborative_governance_in_Norway

Lovereid, Elise 2018. Kvinner får posttraumatisk stresslidning dobbelt så ofte som menn [Women get PTSD twice as often as men], *Kilden genderresearch.no*. <http://kjonnforskning.no/nb/2018/03/kvinner-far-posttraumatisk-stresslidning-dobbelt-sa-ofte-som-menn>

Miralles-Guasch, Carme, Montserrat Martínez Melo & Oriol Marquet 2016. A gender analysis of everyday mobility in urban and rural territories: from challenges to sustainability, *Gender, Place & Culture*, 23 (3): 398-417. <https://doi.org/10.1080/0966369X.2015.1013448>

Moi, Toril 1999. *What is a Woman? And Other Essays*. Oxford University Press.

MTT 2010. *Foodspill*. Agrifood Research Finland. <http://www.mtt.fi/english/foodspill>

NBS 2015. *Et landbruk uten kvinner. En kartlegging av årsaker til at ikke flere kvinner velger landbruket som yrkesvei* [Agriculture without women. A survey of why not more women choose agriculture as a career path]. Women, democracy and participation. Norwegian Farmers and Smallholders Union. <http://docplayer.me/48738-Et-landbruk-uten-kvinner.html>

Nielsen, Harriet Bjerrum 2018. Gender as Analytic, Political and interdisciplinary Concept. In Håkon Leiuflsrud & Peter Sohlberg (eds.) *Concepts in Action. Conceptual Constructionism*. Brill: 264-301.

Norwegian Directorate of Health 2012. *Norkost 3 – En landsomfattende kostholdsundersøkelse blant menn og kvinner i Norge i alderen 18–70 år, 2010–11* [Norkost 3 – a national dietary survey among men and women in Norway aged 18–70, 2010–11]. <https://helseidirektoratet.no/Lists/Publikasjoner/Attachments/301/Norkost-3-en-landsomfattende-kostholdsundersokelse-blant-menn-og-kvinner-i-norge-i-alderen-18-70-ar-2010-11-IS-2000.pdf>

Øistad, Beate Sletvold 2015. More cycling with e-bikes, *Kilden genderresearch.no*. <http://kjonnforskning.no/en/2015/08/more-cycling-e-bikes>

Oldrup, Helene & Michala Hvidt Breengard 2009. *Gender and Climate Change*. ANP 2009/765. Nordic Council of Ministers. <http://norden.diva-portal.org/smash/get/diva2:700518/FULLTEXT01.pdf>

Pearl-Martinez, Rebecca & Jennie C. Stephens, 2016. Toward a gender diverse workforce in the renewable energy transition. *Sustainability: Science, Practice, & Policy*, 12 (1). <https://doi.org/10.1080/15487733.2016.11908149>

Pijuan, Irene Gonzalez 2017. *Desigualdad de género y pobreza energética. Un factor de riesgo olvidado*. Asociación Catalana de Ingeniería Sin Fronteras. <https://esf-cat.org/wp-content/uploads/2017/09/ESFeres17-PobrezaEnergeticalDesigualdadGenero.pdf>

Polk, Merritt 2003. Are women potentially more accommodating than men to a sustainable transportation system in Sweden? *Transportation Research Part D: Transport and Environment*, 8 (2): 75-95. [https://doi.org/10.1016/S1361-9209\(02\)00034-2](https://doi.org/10.1016/S1361-9209(02)00034-2)

Polk, Merritt 2004. The influence of gender on daily car use and on willingness to reduce car use in Sweden, *Journal of Transport Geography*, 12 (3): 185-195. <https://doi.org/10.1016/j.jtrangeo.2004.04.002>

Polk, Merritt 2009. Gendering climate change through the transport sector, *Kvinder, køn og forskning* (3-4): 73-78. <https://gup.ub.gu.se/publication/114505>

Pucher, John & Ralph Buehler 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany, *Transport Reviews*, 28 (4): 495-528. <https://doi.org/10.1080/01441640701806612>

Ragasa, Catherine, Debdata Sengupta, Martha Osorio, Nora OurabahHaddad & Kirsten Mathieson 2014. *Gender-specific Approaches, Rural Institutions and Technological Innovations*. Food and Agriculture Organization of the United Nations (FAO). <http://www.fao.org/3/a-i4355e.pdf>

Ruralis 2017. *Trender i norsk landbruk* [Trends in Norwegian agriculture]. Fact sheet 4/2017. <https://ruralis.no/wp-content/uploads/2017/05/158c00452775db.pdf>

Ruralis 2018. *BioSmart: Managing the transition to a smart bioeconomy (2015-2018)*. <https://biosmart.no/about-biosmart/?lang=en>

Rybråten, Stine, Margrete Skår & Helena Nordh 2017. The phenomenon of walking: diverse and dynamic, *Landscape Research*. <https://doi.org/10.1080/01426397.2017.1400527>

Rätzy, Riitta & Annika Carlsson-Kanyama 2009. *Comparing energy use by gender, age and income in some European countries*. Report FOI, Swedish Defense Research Agency Stockholm. <https://www.compromisorse.com/upload/estudios/000/101/foir2800.pdf>

Rätzy, Riitta & Annika Carlsson-Kanyama 2009. Energy consumption by gender in some European countries, *Energy Policy*, 38 (1): 646-649. <https://doi.org/10.1016/j.enpol.2009.08.010>

Scharffscher, Kristin S. 2011. Disempowerment through disconnection: Local women's disaster response and

- international relief in post-tsunami Batticaloa, *Disaster Prevention and Management*, 20 (1): 63-81. <https://doi.org/10.1108/09653561111110990>
- Schultz, Irmgard & Immanuel Stiess 2009. *Gender aspects of sustainable consumption strategies and instruments*. Eupopp, Policies to promote sustainable consumption patterns. Institute for Social-Ecological Research (ISOE). https://www.iso.de/ftp/publikationen/ISOE_GenderWP1.pdf
- Simićević, Jelena, Nada Milosavljević & Vladimir Djoric 2016. Gender differences in travel behaviour and willingness to adopt sustainable behaviour, *Transportation Planning and Technology*, 39 (5): 527-537. <https://doi.org/10.1080/03081060.2016.1174367>
- Skjølsvold, Tomas Moe, Susanne Jørgensen & Marianne Ryghaug 2017. Users, design and the role of feedback technologies in the Norwegian energy transition: An empirical study and some radical challenges, *Energy Research & Social Science*, 25: 1-8. <https://doi.org/10.1016/j.erss.2016.11.005>
- Skuland, Silje Elisabeth 2015. Healthy Eating and Barriers Related to Social Class. The case of vegetable and fish consumption in Norway, *Appetite*, 92: 217-226. <https://doi.org/10.1016/j.appet.2015.05.008>
- Standal, Karina & Tanja Winther 2016. Empowerment Through Energy? Impact of Electricity on Care Work Practices and Gender Relations, *Forum for Development Studies*, 43 (1): 27-45. <https://doi.org/10.1080/08039410.2015.1134642>
- Standal, Karina 2018. Household solar systems and the green energy transition - does gender matter when households become prosumers?, *Klima - Et magasin om klimaforskning fra CICERO*. <https://www.cicero.oslo.no/No/posts/klima/gender-its-electric-too>
- Standal, Karina et al. 2018. *Synthesis Report on the case study "From Consumer to Prosumer."* ENABLE.EU report.
- STK 2018. *Gender equality, diversity and societal security*. Centre for gender Research, University of Oslo. <https://www.stk.uio.no/english/research/projects/gender-equality-diversity-and-security/index.html>
- Szulc, Pawel, Jean Marc Kaufman & Eric S. Orwoll 2012. Osteoporosis in Men, *Journal of Osteoporosis*. <https://doi.org/10.1155/2012/675984>.
- The EUGenMed, Cardiovascular Clinical Study Group, Vera Regitz-Zagrosek, Sabine Oertelt-Prigione, Eva Prescott, Flavia Franconi, Eva Gerds, Anna Foryst-Ludwig, Angela H.E.M. Maas, Alexandra Kautzky-Willer, Dorit Knappe-Wegner, Ulrich Kintscher, Karl Heinz Ludwig, Karin Schenck-Gustafsson & Verena Stangl 2016. Gender in cardiovascular diseases: impact on clinical manifestations, management, and outcomes, *European Heart Journal*, Volume 37, Issue 1: 24-34. <https://doi.org/10.1093/eurheartj/ehv598>
- Torp, Ingrid S. 2016. Empowered by electricity, *Kilden genderresearch.no*. <http://kjonnforskning.no/en/2016/12/empowered-by-electricity>
- Torp, Ingrid S. 2016. Fiskekvoter inn, kvinner ut [Fish quotas in, women out], *Kilden genderresearch.no*. <http://kjonnforskning.no/nb/2016/11/fiskekvoter-inn-kvinner-ut>
- Torp, Ingrid S. 2017. Women central to the global fishing industry, *Kilden genderresearch.no*. <http://kjonnforskning.no/en/2017/01/women-central-global-fishing-industry>
- Transgen 2007. *Gender mainstreaming European transport research and policies - building the knowledge base and mapping good practices*. The Co-ordination for Gender Studies, University of Copenhagen. <https://kjoensforskning.soc.ku.dk/projekter/transgen>
- Tretvik, Terje 2015. *Sykkelundersøkelse 2015 Osloområdet* [The Bicycle Survey 2015]. SINTEF report A27141. <http://docplayer.me/18339066-Sintef-a27141-afen-rapport-sykelundersokelse-2015-osloomradet-forfatter-terje-tretvik-sintef-teknologi-og-samfunn-transportforskning-2015-09-15.html>
- UN WOMEN & UNEP 2015. *Women's Sustainable Energy Entrepreneurship and Access*. Flagship Programme. <http://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2015/fpi%20brief-energy%20globalusv3.pdf?la=en&vs=5222>
- UN Women 2015. *Gender equality, women's empowerment and climate change*. <http://www.unwomen.org/en/news/in-focus/climate-change/2015>
- UNDP 2007. *Gender Mainstreaming a Key Driver of Development in Environment & Energy*. Chemicals Management. Energy & Environment Practice. Gender Mainstreaming Guidance Series. <http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/chemicals-management/chemicals-management-the-why-and-how-of-mainstreaming-gender/Chemicals%20Management%20and%20Gender%20Mainstreaming.pdf>
- UNEP 2011. *Green Economy Report*. UNEP Green Economy Initiative. <http://whygreeneconomy.org/information/unep-green-economy-report/>
- Warat, Marta et al (red.) 2016. *Gender Equality and Quality of Life: Perspectives from Poland and Norway*. Peter Lang GmbH, Internationaler Verlag der Wissenschaften.
- Winsnes Rodland, Anne 2018. *Hva vet vi om kvinners helse? Rapport fra forprosjektet for Kvinnehelseportalen.no* [What do we know about women's health? Report from a pre-project for the internet portal on women's health, *Kvinnehelseportalen.no*]. Norwegian Women's Public Health Association & Kilden genderresearch.no. http://kjonnforskning.no/sites/default/files/hva_vet_vi_om_kvinnernes_helse_rapport_kilden_kjonnforskning.no_nks.pdf

CONTRIBUTORS

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Aase Kristine Lundberg, NORDLAND RESEARCH INSTITUTE

Anne Helene Kveim Lie, INSTITUTE OF HEALTH AND SOCIETY, UNIVERSITY OF OSLO

Astrid Sinnes, FACULTY OF SCIENCE AND TECHNOLOGY, NORWEGIAN UNIVERSITY OF LIFE SCIENCES

Bjarne Isaksen, THE MUSIC CONSERVATORY, UIT THE ARCTIC UNIVERSITY OF NORWAY

Hanne Haavind, DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF OSLO

Jan Erik Grindheim, DEPARTMENT OF BUSINESS, STRATEGY AND POLITICAL SCIENCE, UNIVERSITY OF SOUTH-EASTERN NORWAY, AND THE NORWEGIAN THINK TANK CIVITA

Kristin Sørung Scharffscher, CENTRE FOR RISK MANAGEMENT AND SOCIETAL SAFETY (SEROS), UNIVERSITY OF STAVANGER

Lise Christensen, RESEARCH COUNCIL OF NORWAY

Marco Hirnstein, DEPARTMENT OF BIOLOGICAL AND MEDICAL PSYCHOLOGY, UNIVERSITY OF BERGEN

Margrete Skår, NORWEGIAN INSTITUTE FOR NATURE RESEARCH (NINA)

Tomas Moe Skjølsvold, DEPARTMENT OF INTERDISCIPLINARY STUDIES OF CULTURE, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU)

Torunn Tryggestad, CENTRE ON GENDER, PEACE AND SECURITY, PEACE RESEARCH INSTITUTE OSLO (PRIO)

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