

## **Study and Reflection Guide**

### **Sex, Gender, and Gender Identity Video Series**

These videos are designed to be viewed by small groups of persons interested in learning about the science behind sex and gender variation, though they can also be viewed by an individual alone. The goal of the group should be to learn about the topic, not to express individual opinions.

In order to maximize knowledge and appreciation of their content, it is recommended that a leader for the viewer group use this guide. It is not necessary that the leader of the group have a scientific background. It is essential that the leader read the material below including the reference material prior to the discussion. The leader must ensure that all persons in the group are given the time to ask questions and to express their thoughts. If questions are asked that cannot be answered by the leader, someone from the group should commit to researching the answer and following up with the group. The NIH website, [www.nih.gov](http://www.nih.gov), is a good source for necessary information. Another source is Medline Plus, [www.medlineplus.gov](http://www.medlineplus.gov).

Some of these topics are sensitive, and the discussion may become heated. We recommend that the group establishes ground rules that are written down and can be returned to if necessary. Here are some examples of such rules: 1) assume good intentions, 2) ask questions rather than express judgement, 3) good people can disagree, and if the disagreement gets too heated, then we will take a break, and 4) we want to hear all voices, so if you are usually quiet please try to participate, and if you are usually talkative please step back a bit to allow others the room to express themselves.

**Spend some time after each video considering the prompts in this manual, as well as other ideas that may come up. If in a group, spend at least five to ten minutes in a discussion after each video. If you are looking at the videos alone, we recommend writing down your thoughts.**

After this workshop, participants can keep up with science advances by going to the NIH and Medline Plus websites for accurate information. Newspapers such as the Washington Post report on these matters from time to time. Local colleges and universities often have educational programs for the non-scientist as well.

The Campion Fund hopes that this video series stretches your thinking and opens your mind to new ways of considering sex, gender, and gender identity.

## Video 1: Introduction to series on sex and gender variation

Phyllis Leppert, MD, PhD

### Summary

We are all unique individuals. Even identical twins are not completely the same— while they have the same genes, environmental and social factors make them biologically unique persons. Our uniqueness includes traits associated with maleness and femaleness, such as our body shape, hair patterns, and brain structure.

There are many steps that contribute to the development of maleness and femaleness in the womb. Each of these steps have their own ranges of opportunity for variation.

### Prompts for reflection

**Define Sex, Gender, and Gender Identity.** Write the definition down. What does it mean when we say that sex is a biological phenomenon and gender is a social phenomenon? We often use the same words, such as male and female, to describe differences in both sex and gender. **How might this lead to confusion?**

Make a list of traits we consider male or female, then review the list. **For each trait, consider whether it's possible for a female to have the “male” trait, or for a male to have the “female” trait.**

## Video 2: A personal story

Mr. John Yarbrough

### Summary

John Yarbrough began transitioning from female to male later in life. He discusses two specific aspects of his life that are important in understanding transgender persons.

The first is that he knew early in life that something was not right and that while called a girl he felt he was a boy. Many studies illustrate that transgender persons know at an early age that they are being categorized as the sex that is not really theirs. **Consider the following statements posted on the website of The National Center for Transgender Equality<sup>1</sup>** located in Washington, DC:

“For people who aren’t transgender, the idea of children being transgender can be difficult to understand. How can someone that young, sometimes as young as two or three, really know? While no one is sure what causes someone to be transgender, there is widespread medical consensus that our internal sense of gender is a core part of everyone’s identity that can and does form at a young age for most people... To put it more simply? No, children are not too young to know their true gender. Many children—whether they’re transgender or not—instinctively know their gender identity... Likewise, transgender people exist around the world, in every society and culture. From this we know that being transgender is not simply confusion or a phase, but a deeply held part of a person’s identity.”

The other aspect of his life that he shares is his long depression that was resistant to treatment. Clinical experience and studies in the psychiatric literature point out that depression occurs in a large percentage of transgender persons. One such study<sup>2</sup> found that the rates of depressive symptoms (51.4% for transgender women; 48.3% for transgender men) and anxiety (40.4% for transgender women; 47.5% for transgender men) is much greater than the rates of those for the general population.

He also points out that his particular gender identity is male, which happens to fall into a male/female binary, but many transgender people do not identify as strictly male or strictly female.

### Prompts for reflection

**What aspects of John Yarbrough’s life experiences are surprising to you? Why or why not? Can you identify with any feelings of struggle, not fitting in, or depression that he describes?**

### References

<sup>1</sup> <https://transequality.org/>

<sup>2</sup> Budge, S. L., Adelson, J. L., & Howard, K. A. S. (2013). Anxiety and depression in transgender individuals: The roles of transition status, loss, social support, and coping. *Journal of Consulting and Clinical Psychology, 81*(3), 545-557. <http://dx.doi.org/10.1037/a0031774>

## Video 3: What to expect when you're expecting

Kathryn McClelland, PhD

### Summary

In this video, Kathryn McClelland discusses the complexity of the biological process of sex differentiation. She points out that there are many variations that can occur in this process. Development of the reproductive organs begins early in the embryo, and later reproductive hormones influence brain development as well as the rest of the body.

Kathryn McClelland mentions Hanne Gaby Odiele, a woman who has spoken publicly about her complete androgen insensitivity (CAI). She has always identified as a woman, and is married to a man. In this instance of androgen insensitivity, her chromosomes are XY and she was born with internal testes, which produce testosterone. But she developed as a woman because her body does not recognize male hormones, even though it produces them. Androgen insensitivity is just one way that a person can have chromosomes or anatomy that does not strictly fit the typical definition of male or female. Another term often used for this umbrella group is “intersex”, and it is found in 1.7 % of persons, as common as persons with red hair.

There are many other variations in sex differentiation that can occur in individuals but we did not elaborate on them. **The complexity of the information referenced in this video is enormous and can be confusing. You do not need to know the complex process of development in order to appreciate that variations in sexual development are common. Please keep this in mind during reflection.**

### Prompts for Reflection

**What does it mean to say the sex is a continuum and not a binary trait?** Can you visualize how a continuum occurs?

If individuals with intersex conditions, such as that of Hanne Gaby Odiele, are as common as individuals with red hair, why do you think we don't talk about it very much?

If you desire more scientific details about this complex process, we have provided several references on the Champion Fund website ([championfund.org/sexandgender](http://championfund.org/sexandgender)). The third article, a minireview, is easy to read, but keep in mind that it was written in 2001 which is a long time ago by scientific standards.

## Video 4: Sex hormones and the brain

Sarah Berga, MD

### Summary

In this video Sarah Berga discusses how she became interested in studying the brain in men and women and how sex hormones effect the structure and function of human brains. In personal terms, she talks about how concepts about men and women's brains have changed over time. She describes how, while male and female brains have generalizable differences between them, brains are hugely variable from each other, and many do not match common male and female patterns. She implies that science is just beginning to pursue studies on the topic the brain and sex hormones. We do know, however, that estrogens and androgens do affect brain development.

Several years ago, a study published in the prestigious scientific journal Proceedings of the National Academies of Science concluded that “although there are sex/gender differences in the brain, ... brains with features that are consistently at one end of the ‘maleness-femaleness’ continuum are rare. Rather, most brains are comprised of unique ‘mosaics’ of features, some more common in females compared with males, some more common in males compared with females, and some common in both females and males.” The idea is that each brain has its own mosaic. This study analyzed brains of more than 1,400 persons, making it a large study compared to other similar brain studies. We have provided a copy of this study on the Champion Fund website ([championfund.org/sexandgender](http://championfund.org/sexandgender)) if any members of the group wish to read it.

### Prompts for Reflection

**What are some of the things that make us “one and only”?** What are some ways we are different from each other that we don't usually talk about? **Why is diversity important?**

Previous talks focused mainly on ways in which bodies are more diverse than just “male” and “female”, yet Sarah Berga says that the male/female dichotomy works even worse for brains than it works for bodies. **How can we try to make sure we keep an open mind about other people's experiences when we cannot see a lot of the underlying diversity that makes them unique (such as the brain and hormones)?**

## Video 5: Sex and gender variations throughout history, societies, and species

Joan Roughgarden, PhD

### Summary

Joan Roughgarden is a biologist who has spent her career studying many aspects of sex and gender variation. She states unequivocally that the only thing that is binary about sex identity is the size of the gametes— that sperm are always tiny and eggs are always large. Every other aspect of sex and gender identity, including the bodies that house these sperm and eggs, is a continuum.

Variation in sex and gender is not new— it has occurred throughout history. It is also accepted in a number of cultures today. The Native American (First Nations) peoples have a long tradition of acknowledging multiple genders and today a third gender is known as Two-Spirit. Joan Roughgarden mentions other traditions that also acknowledge a number of genders such as Mahu in the Polynesian culture, Hijra in India, and Cybelian priestesses in Rome. This is not to say that three genders, or any other number, is the “correct” amount. These examples just illustrate that there are many different ways a society can decide to categorize sex and gender.

Finally, these variations are common, with an incidence of gay identity as 1:10 and transgender identity as 1:300. Biologists do not consider characteristics that are this common to be harmful. They are normal variations.

Further reading: Roughgarden, Joan. 2004. *Evolution’s Rainbow. Diversity, Gender, and Sexuality in Nature and People*. Berkeley: University of California Press. In this book Roughgarden argues that biological sex, gender, and sexual orientation all defy rigid binarism.

### Prompts for Reflection

**Think about the fact that gamete size is the only true binary that defines the sexes. Does this change your understanding of sex and gender identity?**

To learn more regarding one cultural point of view, we have provided a short article from the internet that describe Two-Spirit life. You can find it on the Campion Fund website ([campionfund.org/sexandgender/reading](http://campionfund.org/sexandgender/reading))

Take time now to reflect on the videos reviewed so far. **Discuss what is new to you.** How has this changed your thinking about sex and gender and gender identity?

## Video 6: How do we know what we think we know?

Rev. Phillip Cato, PhD

### Summary

Phillip Cato asks how do we know what we know? Often, people say that they have an intuition that lets them know things. They are very sure that they are right. While intuition is useful for some things, relying solely on one's intuition can be harmful in that it can cause a closed mind. Humans came up with the scientific method as a way to test what they think they know, so they can adjust their thinking if necessary.

The scientific method starts with an observation that brings up a question for you. The next step is to make the make your best guess of the answer to that question, and come up with a way to test whether that guess is right or not. If you can repeat your test many times and the result consistently contradicts your best guess, then you take it as evidence that your guess is not right.

Anyone can apply the scientific method to the way they think about anything. It doesn't matter what the topic is, it only matters that one pays attention to evidence, thinks about it logically, and is willing to change their mind when presented with convincing evidence.

### Prompts for reflection

Consider the comment in the introductory video that science is process. Describe how this process is important to our understanding of sex, gender and gender identity.

#### **What are the pros of intuition and what are the cons?**

Phillip Cato uses the words "gender dysphoria". Consider what the Center for Transgender Equality has posted on its website<sup>1</sup>: "According to the [Diagnostic and Statistical Manual of Mental Disorders](#) (DSM-5), people who experience intense, persistent gender incongruence can be given the diagnosis of 'gender dysphoria.' **Some contend that the diagnosis inappropriately pathologizes gender noncongruence and should be eliminated.** Others argue that it is essential to retain the diagnosis to ensure access to care." The [International Classification of Diseases](#) (ICD) revision and now classifies intense persistent gender incongruence as 'gender identity disorder'. Discuss your thoughts about this. **How should we decide whether a trait or experience should be categorized as a disease? How does that categorization change the way we think about the trait?**

**How does the non-scientist keep up with the constant discoveries?** What a person learns in high-school biology or undergraduate college biology is woefully outdated four or five years later. **What are some creditable sources that provide current information to the non-scientist?**

### References

<sup>1</sup> <https://transequality.org/>