



AMERICAN AUTISM S O C I E T Y

April 2023 Newsletter

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Skinner vs. Chomsky

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Prologue:

THE "DEBATE"

The difference between Chomsky and Skinner's beliefs can most simply be put as such: Skinner believes that language is learned, whereas Chomsky believes that language is innate, and is simply developed. It is also important to understand the psychological approaches that each man belongs to, Skinner is a behaviorist, whereas Chomsky is a structuralist. In many ways, the "debate" between the two men is simply a reincarnation of the timeless question of "nature versus nurture," which people have found is impossible to answer most of the time. Before analyzing the "debate of the century" it is important to understand that although the two theories were hotly debated, the two men never engaged in dialectical dialogue. In fact, Skinner never bothered to write a response to Chomsky's critique of his *Verbal Behavior* saying rather immaturely that he had "no inclination to do so at all" because to respond he "should've had to read it and had no intention of doing that" and because he "found it boring" (1). Later on, BBC proposed a televised debate between the two psychologists, which BF Skinner refused, saying that "Chomsky loves to talk, so I told them that I would go on for a debate under the condition that they guarantee that we would receive equal speaking time" he then said jokingly that "if anyone wished to disprove Alfred Adler's thesis that a man goes into a field which he has some natural shortcoming, I suggest he cite Chomsky" (1). At the end of Skinner's life he said that he saw no reason to respond to Chomsky's critique since "a wonderful psychologist named Kenneth MacCorquodale has already picked apart Chomsky's review of my book page by page for me" (1). Supporters of Chomsky say that "Skinner is nothing but a stimulus response psychologist" or that Skinner thinks "people are nothing more than pigeons" or more humorously that "we should lock up Skinner and give Chomsky a carte blanche" (1). Since Skinner never gave a formal response to Chomsky and allowed a "Chomskyan revolution" to occur in the field of linguistics in the 1960's the verdict as to which psychological mind reigns superior will always be an open ended question, without any sort of consensus. Although it should be known that if there ever was a true debate between Chomsky and Skinner, that Chomsky won under the principles of both forfeiture and acceptance. Chomsky's theory of universal grammar is now the most widely cited linguistic theory and the most respected by the scientific community (5). There are still heavy death metal behaviorist sympathizers, though, but only time will tell whose theory was correct.

CONCLUSION

Like many things in psychology, and in a broader sense, science, the issue of language acquisition is still without a definite answer. It is our task as humans to engage in the praxis of inquiry and conversly to seek out evidence and rationale to support our claims. People like myself have a certain advantage, though. We are humbled by the lack of acuity that makes us merely observers, but at the same time we hold a position over the brilliant minds that offer up their work for our judgement. No matter how intelligent men like Noam Chomsky and BF Skinner may be, it is still the the observer that holds the power of consensus. The debate between Skinner and Chomsky on language acquisition has become a bone of contention because of the longevity of the debate and the questions it reintroduces. But like the truism that in science there are rarely definite answers, there is another

truism which could help us come to a compromise. That is the truism and the possibility that is often overlooked, that maybe, both of these men were correct in their suppositions of language. Which is why I contest that we look at the debate from a biopsychosocial perspective rather than from a behaviorist perspective like Skinner, or a structuralist perspective, like Chomsky. By looking at language acquisition from a biopsychosocial perspective we effectively confront this truism, that in life there is often more than one truth. Lastly, it is important to recognize the contributions that a simple disagreement of men have had on psychology. Both Chomsky and Skinner's theories have led to significant scientific advancements. Skinner's theory of language acquisition and his use of operant conditioning to explain how the process occurs has led to very practical real world applications, such as in the classroom or in the workplace (6). Chomsky's theory of universal grammar has led to and inspired many important studies on indigenous tongues in the Amazon particularly, but also other isolated societies around the world. Such as the study on the Amazon tribe that has no numeracy, which was actually meant to disprove Chomsky, but nonetheless was only conducted because of him (7). In many ways, the lack of agreement upon which theory is correct has driven both Noam Chomsky and BF Skinner to expand upon their theories, conduct new experiments and studies, and perhaps most importantly, inspire new generations of psychologists seeking to continue the endless endeavor of understanding language.

-Doug

Chapter 1

What is Fragile X Syndrome?

[Español \(Spanish\)](#) | [Print](#)

Fragile X syndrome (FXS) is a genetic disorder. FXS is caused by changes in a gene called Fragile X Messenger Ribonucleoprotein 1 (*FMR1*). *FMR1* usually makes a protein called FMRP that is needed for brain development. People who have FXS do not make this protein. Those with [fragile X-associated disorders](#) have changes in the *FMR1* gene, but usually still make some of the protein.

FXS affects both males and females. However, females often have milder symptoms than males. The exact number of people who have FXS is unknown, but a review of research

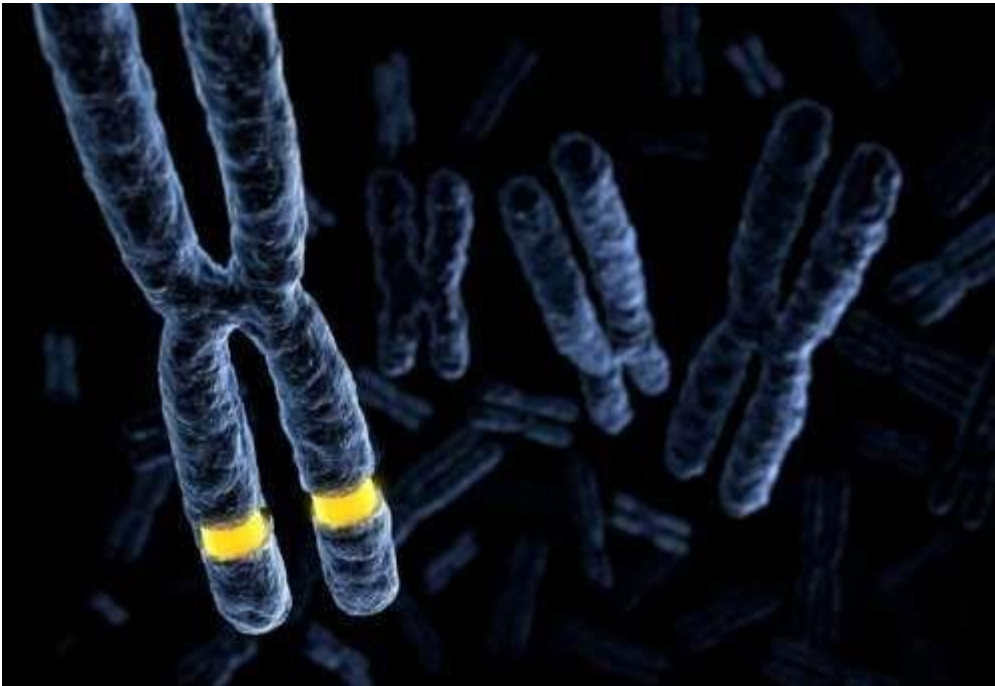
studies estimated that about 1 in 7,000 males about 1 in 11,000 females have been diagnosed with FXS. ¹

[Learn how FXS is inherited »](#)

Signs and Symptoms

Signs that a child might have FXS include:

- Developmental delays (not sitting, walking, or talking at the same time as other children the same age);
 - Learning disabilities (trouble learning new skills); and
 - Social and behavior problems (such as not making eye contact, anxiety, trouble paying attention, hand flapping, acting and speaking without thinking, and being very active).
- Males who have FXS usually have some degree of [intellectual disability](#) that can range from mild to severe. Females with FXS can have normal intelligence or some degree of intellectual disability. [Autism spectrum disorder \(ASD\)](#) also occur more frequently in people with FXS.



Testing/Diagnosis

FXS can be diagnosed by testing a person's DNA from a blood test. A doctor or [genetic counselor](#) can order the test. Testing also can be done to find changes in the FMR1 gene that can lead to fragile X-associated disorders.

A diagnosis of FXS can be helpful to the family because it can provide a reason for a child's intellectual disabilities and behavior problems. This allows the family and other caregivers to learn more about the disorder and manage care so that the child can reach his or her full potential. However, the results of DNA tests can affect other family members and raise many issues. So, anyone who is thinking about FXS testing should consider having genetic counseling prior to getting tested.

Uncover the Facts: [Fragile X Myth Busters](#) for families and health professionals.

Treatments

There is no cure for FXS. However, treatment services can help people learn important skills. Services can include therapy to learn to talk, walk, and interact with others. In addition, medicine can be used to help control some issues, such as behavior problems. To develop the best treatment plan, people with FXS, parents, and health care providers should work closely with one another, and with everyone involved in treatment and support—which may include teachers, childcare providers, coaches, therapists, and other family members. Taking advantage of all the resources available will help guide success.

Early Intervention Services

Early intervention services help children from birth to 3 years old (36 months) learn important skills. These services may improve a child's development. Even if the child has not been diagnosed with FXS, they may be eligible for services. These services are provided through an early intervention system in each state. Through this system, you can ask for an evaluation. In addition, treatment for particular symptoms, such as speech therapy for language delays, often does not need to wait for a formal diagnosis. While early intervention is extremely important, treatment services at any age can be helpful.

[Learn more about early intervention »](#)

What to do if you think your child might have FXS

Local public school systems can provide services and support for children age 3 years and older. Children can access some services even if they do not attend public school. When parents are concerned about a child's development, it can be very challenging for them to figure out the right steps to take. States have created parent centers. These centers help



families learn how and where to have their children evaluated and how to find services. For information about services in your state, you can [access your state's parent center](#).

Finding Support

Having support and community resources can help increase confidence in managing FXS, enhance quality of life, and assist in meeting the needs of all family members. It might be helpful for parents of children with FXS to talk with one another. One parent might have learned how to address some of the same concerns another parent has. Often, parents of children with special needs can give advice about good resources for these children.

Remember that the choices of one family might not be best for another family, so it's important that parents understand all options and discuss them with their child's health care providers.

- Contact the [National Fragile X Foundation](#) at 1-800-688-8765 or treatment@fragileX.org to get information about treatments, educational strategies, therapies and intervention.
- Connect with a [Community Support Network \(CSN\)](#) at the National Fragile X Foundation. CSNs are organized and run by parent volunteers and provide support to families.

CDC's Work on Fragile X Syndrome

CDC is working to learn more about the natural history of fragile X so that better approaches to intervention can be developed.

As part of this effort, CDC:

- Supported the National Fragile X Foundation to develop the [Fragile X Online Registry With Accessible Research Database \(FORWARD\)](#). The purpose of FORWARD is to learn more about
 - Other conditions that commonly occur along with FXS,
 - The impact on the day-to-day lives of individuals living with FXS and their families,
 - Short-term and long-term outcomes, and
 - What type of interventions and support are most effective for different individuals and their families.
- Collaborated with the American Academy of Pediatrics [to develop and distribute educational materials](#) to healthcare professionals and families. These materials are designed to raise awareness of FXS and encourage early diagnosis so that people with FXS can receive appropriate care and services.
- Is working to learn more about how children with FXS develop compared to children with other conditions including ASD or developmental disability, and to learn more about children with FXS who also have other diagnosed conditions.

Other Resources

[Fragile X Online Registry With Accessible Research Database \(FORWARD\)](#)

Funded by CDC, FORWARD is the largest source of data on people with fragile X syndrome and their families.

[FRAXA Research Foundation](#)

FRAXA's mission is to accelerate progress toward effective treatments and ultimately a cure for fragile X by directly funding the most promising research. FRAXA also supports families affected by fragile X.

[National Institutes of Health, Office of Rare Diseases Research, Genetic and Rare Diseases Information Center](#)

The Office of Rare Diseases Research (ORDR) answers questions about rare diseases for patients, families, healthcare providers, researchers, students and educators. The ORDR website provides information about National Institutes of Health-sponsored biomedical research, scientific conferences, and rare and genetic diseases.

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Page last reviewed: June 3, 2022

Chapter 2

Reflective Teaching

When instructors engage in reflective teaching, they are dedicating time to evaluate their own teaching practice, examine their curricular choices, consider student feedback, and make revisions to improve student belonging and learning. This process requires information gathering, data interpretation, and planning for the future. Reflective teaching involves examining one's underlying beliefs about teaching and learning and one's alignment with actual classroom practice before, during and after a course is taught.

When teaching reflectively, instructors think critically about their teaching and look for evidence of effective teaching. This critical analysis can draw on a variety of sources: Brookfield (2017) lays out four crucial sources: “students’ eyes, colleagues’ perceptions, personal experience, and theory and research.” Instructors can use various tools and methods to learn from these sources and reflect on their teaching, ranging from low-key to formal and personal to inter-collegial. For example, reflective teaching may include self-assessment, [classroom observations](#), consideration of [student evaluations](#), or [exploration of educational research](#). Because each semester’s students and their needs are different, reflective teaching is a continual practice that supports effective and studentcentered teaching.

Examples of Self-Assessment

- **Reflection Journals:** Instructors might consider capturing a few details of their teaching in a journal to create an ongoing narrative of their teaching across terms and years. Scheduling a dedicated time during the 5 or so minutes after class to write their entries will ensure continual engagement, rather than hoping to find a moment throughout the day. The instructor writes general thoughts about the day’s lesson and might reflect on the following questions: What went well today? What could I have done differently? How will I modify my instruction in the future?
- **Teaching Inventories:** A number of [inventories](#), like the [Teaching Practices Inventory](#)([link is external](#)) (Wieman and Gilbert, 2014), have been developed to help instructors assess and think more broadly about their teaching approaches. Inventories are typically designed to assess the extent to which particular pedagogies are employed (e.g. student- versus teachercentered practices).
- **Video-Recorded Teaching Practices:** Instructors may request the Poorvu Center to video record their lessons while conducting a classroom observation, or instructors can video record themselves while teaching and use a [classroom observation protocol](#) to self-assess their own

practices. Some Yale classrooms have video cameras installed for [lecture capture](#), which instructors can then use for their self assessment.

- **Teaching Portfolio:** A more time-intensive practice, the teaching portfolio invites instructors to integrate the various components of their teaching into a cohesive whole, typically starting with a teaching philosophy or statement, moving through sample syllabi and assignments, and ending with evaluations from colleagues and students. Though less focused on classroom practices, a portfolio is an opportunity to reflect on teaching overall. The Poorvu Center offers an opportunity for faculty new to Yale to complete a teaching intensive and reflective program, the [Faculty Teaching Academy](#), which includes a culminating portfolio. Faculty who complete the program will receive a contribution to their research or professional development budgets. The University of Washington CTL offers best practices for creating a [teaching portfolio](#)([link is external](#)).

Examples of External Assessment

- **Student Evaluations (Midterm and End-of-Term):** In many courses, instructors obtain feedback from students in the form of [mid-semester feedback](#) and/or [end-of-term student evaluations](#). Because of potential bias, instructors should consider student evaluations as one data source in their instruction and take note of any prevailing themes (Basow, 1995; Watchel, 1998; Huston, 2005; Reid, L. (2010); Basow, S.A. & Martin, J.L. (2012)). They can seek out other ways to assess their practices to accompany student evaluation data before taking steps to modify instruction. The Poorvu Center offers [consultations](#) regarding [mid-semester feedback](#) data collected. They will also conduct [small group feedback sessions](#) with an instructor's students to provide non-evaluative, anonymous conversation notes from students in addition to the traditional survey format. If instructors are interested in sustained feedback over time from a student perspective, then they can also participate in the [Pedagogical Partners](#) program.
- **Peer Review of Teaching:** Instructors can ask a trusted colleague to observe their classroom and give them feedback on their teaching. Colleagues can agree on an [observation protocol](#) or a list of effective teaching principles to focus on from a teaching practices inventory.
- **Classroom Observations:** Any instructor at Yale may request an [observation](#) with feedback from a member of the Poorvu Center staff. Observations are meant to be non-evaluative and promote reflection. They begin with a discussion in which the instructor describes course goals and format as well as any issues or teaching practices that are of primary concern. This initial discussion provides useful context for the observation and the post-observation conversation.

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Chapter 3

Precision Teaching

Precision teaching is a type of programmed instruction that focuses heavily on frequency as its main datum. By focusing on fluency, the teacher can then adjust the curricula for each learner to maximize the learning based on the learner's personal fluency measurements. The instruction can be by any method or approach.

SEE:

<https://onlinelibrary.wiley.com/doi/abs/10.1002/bin.122>

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Including:

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- The origins of precise and standard measures of behavior in B.F. Skinner's cumulative recorder □ How Precision Teaching can help clinicians make a breakthrough difference in clients' lives.