



Evangelical Lutheran Church in America
God's work. Our hands.

Faith & SCIENCE
YOUTH IN DIALOGUE

Session Three
Brain Connections!

Faith & SCIENCE

BRAIN CONNECTIONS! REV. DANA HENDERSHOT

The way we experience God through our brains has been a subject of much discussion and research. For example, brain imaging studies have shown how the brain's blood flow changes during peak spiritual experiences.¹ These studies have led to the conclusion that it is possible to scientifically observe mystical/spiritual experiences.

Peak experiences often lead us on our faith journey. However, we do not have peak experiences in our day-to-day life. Some may have had a peak experience, a moment when they have lost their sense of self and felt at peace and truly in the presence of God. Yet, most do not experience this every day.² Our faith journey includes love, service and learning, as well as both discouragement and encouragement. Worship focuses our life of faith.

This session begins by viewing a video discussing basic brain functions. A lot of what will be taught will apply to everyone. However, this video focuses on brain growth and development during the teenage years, especially how the various connections among basic brain cells (neurons) may become stronger or wither away, depending on our activities and actions. The group will discuss how their experiences and choices work together with their genes to actually shape our brains, and how this pertains to their faith life.

The video also addresses the effects of drugs on adolescent brain function. Drugs are a reality that young people are dealing with today. The group will ponder together about what it means for us to use cocaine and other drugs to fool our bodies into feeling good. Does it matter if we fool our bodies for a couple of hours? Are people of faith less likely to use drugs? Are there alternatives to drugs that enable us to use our gifts to change our brain structure to enhance our daily experience of life? God calls us by name and loves each of us. God interacts with us and has given us abundant life and the ability to make choices for ourselves. How has our faith journey so far begun to shape the gifts that we have?

This session is designed for an hour and a half.

GOALS FOR THE SESSION

- To begin to understand the basic complexity of the brain.
- To begin to understand that we have some control over the changeability of our brain structure.
- To begin to consider the relationship of drugs to the brain and faith.
- To begin to see that our faith journey and interaction with God can affect our brain structure.

SUPPLIES NEEDED

TV and VCR or DVD player
Paper
Pencils
Chalkboard or whiteboard

The video *Secret Life of the Brain – Part 3: The Adolescent Brain* (this PBS special can likely be found at your local library)
Chalk or markers

¹ Andrew Newberg and Eugene D'Aquili, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2001).

² James B. Ashbrook and Carol Rausch Albright, *The Humanizing Brain: Where Religion and Neuroscience Meet* (Cleveland: The Pilgrim Press, 1997).

Note: *Secret Life of the Brain* is now available on YouTube. It can be found here:
<http://www.youtube.com/watch?v=vqr3BvnwKKE&noredirect=1>

SET-UP

You, as the leader, should watch the video before the session so that you can bring a basic understanding to the discussion that will follow. You know your group and the needs of the context in which you live. Please feel free to add or change questions to fit the needs of your group.

Have the video player ready and set to the correct time, with chairs set up for viewing.

It is recommended to find resources about local drug rehab centers before entering into this discussion. This may be useful if the young people involved in this discussion are in need of help or have a friend in need of help. A list of resources is included in this session's materials.

IDENTIFYING THE QUESTIONS

Hand out the pencils and paper. Ask participants to write down any questions they have about this subject. What interests them about this breakout session? What are they hoping will be answered? What would they like to discuss? Collect the papers in the bucket and set it aside.

ENGAGING IN THE SCIENCE

Play the video for the group. If time permits, feel free to watch the whole segment. If not, key sections are listed below:

00:55 – 02:45

10:50 – 13:05

27:25 – 40:25

If time allows: 40:25 – 50:57

After viewing the video, have participants break into groups of five and discuss the questions below:

- Describe a new insight about how your brain functions.
- What does it mean to you on your journey of faith that you are able to change your brain structure?
- Why do some young people want to fool their brains and bodies by using drugs? Name both the good and bad reasons.

TRANSITION

Gather the entire group back together. Share the following statements, and have participants discuss their reactions in light of their previous discussion:

“Highly religious youth living in poor urban neighborhoods are less likely to use illicit drugs than nonreligious youth living in middle-class suburban neighborhoods.”³

“While research indicates that religiously active teens are significantly less likely than nonreligious teens to engage in risk behaviors, significant numbers – between 20 and 40 percent – of religiously active teenagers are involved in serious risk behaviors involving alcohol and drugs.”⁴

Discuss the following questions:

- Do you believe this research?
- Are people of faith you know less likely to use drugs? Why?
- Describe the need that recreational drug usage fulfills.
- Describe the need that God fulfills in our life.
- Is there a link between the preceding two questions? If so, what are the similarities and differences?
- How can we use our gifts and experiences instead of drugs to change our brain structure to enhance our daily experience of life?

ENGAGING IN THEOLOGY

Write the statement below on a board so that the groups can re-read it as needed during discussion. Participants should be cautioned that this statement is simplistic; there is actually more that goes into creating stronger neuro-connections. However, the simplistic statement does provide an example of how one is able to create stronger neuro-connections, and it will give the group a beginning basis for discussion.

“Suppose you are born with musical talent (genes), and your parents buy you a violin and encourage you to practice (environment), and you find this rewarding and therefore work hard (choice). You thereby gain the *ability to choose* to pick up the violin and play a sonata.”⁵

Explain that there are three things that went into enhancing this gift: genes, environment and choice. We have all been given natural gifts and also have had our parents and others encourage us to use those gifts. In some ways, it is our choice if we work hard to enhance those gifts and create stronger neuro-connections. The person above with a natural gift for music was given a violin. But the person might choose instead to play the drums. Would there be the same outcome in the brain?

³ Johnson, Bryon R. “A Better Kind of High: Religious Commitment Reduces Drug Use Among Poor Urban Teens.” Baylor Institute for Studies of Religion. www.baylorisr.org/wp-content/uploads/ISR_Better_High.pdf

⁴ “Significant Numbers of Religiously Active Teenagers are Involved in Serious Risk Behaviors involving Alcohol and Drugs.” National Study of Youth and Religion. <http://youthandreligion.org/news/11-18-2002.html>

⁵ Carol Rausch Albright, “The Emerging Self: Spiritual Growth, Neuroscience, and Self-Organization” (a paper presented at the American Academy of Religion, Philadelphia, Pa., Nov. 19, 2005).

Split the session participants into groups of three to discuss these questions. If time permits, have each group share its insights with the group as a whole.

- What is one gift that your parents or guardians wanted you to enhance? Why did you or didn't you choose to enhance the gift? How can this gift be used on your faith journey?
- How might using different gifts shape the course of the journey for each individual?
- How has your faith journey so far begun to shape the gifts that you have?
- How have your gifts influenced your faith journey? Remember, different people have different journeys.

After the group discussion, explain that God is present in everything we do in life. It is sometimes a challenge to see God in day-to-day life. This is a time for the young people to be challenged with the understanding of how everything they do begins to shape their faith journey. Our experiences and choices begin to shape our brains. We in a sense begin to build ourselves and shape the environment around us, which in turn plays a major role in what we do and become.

ADDRESSING NEW QUESTIONS

Ask the group whether they have any new questions. If they do, then explain that they have learned something new. New knowledge always brings out new questions. If you feel comfortable answering any of these questions, do so, or ask if anyone else in the group has an answer. Unfortunately, the answer to many of their questions may not be known yet or is too complicated to provide here. But discussion will open the door to further understanding. If no one feels confident giving an answer, say that you don't know the answer. If you are able, suggest places that the answer might be found. Use the remaining time to go through the questions they wrote at the beginning of the session. See if some of the questions have been addressed or changed.

CLOSING

Gather the group members together. Ask them to summarize something important that they learned during this session and how that might relate to the good news that God's love was revealed to us in Jesus Christ. Let them know that these insights will be shared during the homily. Have them appoint someone to present these conclusions at closing worship. Then ask the group to write a prayer of hope for their lives that grew from this discussion. Have them appoint someone to read it during the Prayers of the People.