

Phonak Insight

The amazing teenage brain: Ready for advanced conversations

Because teenage brains are undergoing a remarkable growth spurt, teens are ready to move forward as adult thinkers, but they need practice. Teens with hearing loss face unique questions and decisions, and would benefit from adult-level or advanced discussions with trusted listeners.

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Introduction

Until recently, little was known about adolescent brain development, at least in comparison to the remarkable growth in utero until age 6 (e.g., Casey et al., 2000). Fortunately, breakthroughs in neurological science in the last 20 years have confirmed what parents and professionals have long suspected: that a young person's brain also undergoes rapid changes in the teen years (Casey et al., 2008; Giedd, 2008; Luna, 2017). Imaging studies have revealed a second major growth spurt, initially in physical size (ages 9–11) and then in neural connectivity across all regions of the brain, reaching adult maturity by age 24 (Blakemore et al., 2010). During this stage, the brain is actively pruning and re-organizing neural networks for efficiency, especially in the frontal cortex. Increases in white and gray matter accelerate the brain's ability to process information, helping teens make enormous strides in

thinking and understanding. During these years, the teenage brain is especially open to novelty, change, and experience.

This stage of teen brain development has been called "a second window of opportunity" wherein purposeful intervention can support the development of significant cognitive growth, as well as resiliency, self-knowledge, and social-emotional learning (UNICEF, 2017). How to optimize this window of opportunity for teens who have hearing loss? Reassuringly, the same way we optimize a young child's "first window:" with conversation.

The teen brain and advanced conversations

As an advocate for young children with hearing impairment, Dr. Carol Flexer (2018) has stressed the need for immersion in a conversation-rich environment in order for young brains to develop spoken language and literacy. Extending that logic, the same wisdom holds true when children reach the teen years – but now at an elevated level. Brain researcher

Robert Sylwester (2007) recommends adult-level conversations to provide teens opportunities to consider advanced topics such as values and ethics, decisions and consequences, peer pressure and self-awareness.

These kinds of conversations support a developmental process called separation-individuation, wherein teens feel the need to separate from family and align with peer groups (Meeus et al., 2005; Weisel & Kamara, 2005). Although it can be a source of family tension, the separation-individuation process is crucial to the formation of an independent identity, which involves testing and perhaps rejecting family and peer values and expectations, and, over time, defining oneself. Teens usually do not sever all bonds with parents and other adults but, rather, begin shaping a new interdependent relationship (Siegel, 2015). In the meantime, advanced conversations with adults give teens additional food for thought as they consider input from peers, social media, and other influences.

Engaging in advanced conversations

Like every other life skill, teens need practice in articulating their thoughts, explaining their emotional responses to situations, and sorting out points of confusion. Importantly, advanced conversations involve more than just dispassionate discourse; they can also be therapeutic, since any given topic can be upsetting or overwhelming. Professional counselors have long noted that the act of talking through one's concerns with a trusted listener better equips the speaker to manage those concerns (Jaffe, 2014).

The concept of a "trusted listener" is stressed here because it implies specific (and not necessarily day-to-day) characteristics:

- Trust on both sides (i.e., relationship-based)
- More listening than talking
- Comfort with the "gray areas" of a topic
- Recognizing "who owns the problem"

Compare these characteristics to possible "knee-jerk" responses when considering these comments:

- Some kids are bugging me to shoplift with them.
- A new kid in my class is getting bullied.
- I think the girl down the street is self-harming.
- There's this teacher who says really creepy things.
- I'm not going to church with the family anymore.
- I'm a vegan now.

First, we must recognize that it could take some courage for a teen to even bring up these kinds of concerns. Second, we may not process that courage if we are caught off guard,

and therefore reflexively give advice or express our own positions, and effectively "close the door" on further discussion. Advanced conversations strive to keep the door open, by responding with invitations to expand and explore.

Advanced conversations about amplification

Topics for advanced conversations abound: complicated social relationships, confusing feelings, careers options, ethical dilemmas. However, for adults who live and work with teens who have used amplification during childhood, the proverbial "elephant in the room" is the decision to continue or discontinue device use. The decision may be situational, or may change from day to day, or may be a gradual shift away from "daily use" to "almost never" without much notice. Adults may be inclined to focus on devices, but they also represent larger related issues, including self-identity and self-acceptance, as well as the desire to choose one's own path (separation-individuation).

Simply put, when a teen has a hearing loss, the decision to use or not use amplification is part of growing up. Following are four ways to approach advanced conversations about these issues and decisions.

1. Self-assessments. How to talk about a teen's life with hearing loss in a productive way? This was a question that Dr. Judy Elkayam, an educational audiologist, wanted to resolve. She decided to adapt a self-assessment tool for adults (Schow & Nerbonne, 1982) to reflect young people's concerns (her first innovation) and then used the tool as a springboard for discussion (her second innovation).

The Self-Assessment of Communication – Adolescent (SAC-A) (Elkayam & English, 2003) includes 12 questions divided into three categories: Hearing and Understanding at Different Times; Feelings about Communication; and Other People. She found that teens were comfortable rating themselves, and opened up about issues not mentioned before. As a "trusted listener," she learned far more than she had expected about teens' lives, challenges, hopes and fears, and also observed their interest in managing many issues themselves (consistent with reports from Harter, 1998; Lloyd, 2004).

2. "Cost/benefit" analysis. Another type of advanced conversation about amplification can be framed in terms of costs and benefits. By sketching out a 2x2 grid like the one below (adding space for answers), we can ask teens to consider all sides of a decision.

Cost of not using devices	Benefits of not using devices
Cost of using devices	Benefits of using devices

Possible thoughts on this topic might be:

- Costs of not using devices: Others may think you are rude or aloof; you could look clueless.
- Benefits of not using devices: You can feel like other kids; teachers will treat you the same and expect you to be as smart as other kids.
- Costs of using devices: People may have a problem with it; you may not be hired for a summer job – even though that's illegal!
- Benefits of using devices: You are out in the open, so no stress trying to get by; others will understand why you miss something. [Adapted from Clark & English (2019), with permission]

As the teen fills in the grid (verbally or in writing), we learn what is important: these situations can be complicated and hard to navigate. The teen has an opportunity to explain to the listener (and to oneself) rationales, beliefs and perceptions that may have been assumed to be "off the table," not open to discussion.

3. Reframing. Because teens' brains are still developing, they can be vulnerable to several types of "thinking errors," including a tendency to view situations as "black or white" – that is, only in extreme or opposite ways (only good/bad, never/always, all or none) (Sylwester, 2007). Regarding amplification, this tendency may be expressed in these terms:

- *I want to hear better when I'm with my friends, but they can see my hearing aids.*

We may be inclined to point out that the hearing aids are very small, or that the teen shouldn't care about what other people think – but we already know these responses do not help. On the other hand, we can ask if there is another way to think about it, for instance, replace "but" with "and" to see how it changes our viewpoint:

- *I want to hear better when I'm with my friends, and they can see my hearing aids.*

We are proposing that the teen take a small step toward more nuanced thinking, to accept that these two conditions can actually coexist. One condition does not necessarily preclude the other. The concept of reframing thoughts by changing our language comes from the field of cognitive therapy (Ellis, 1996), based on the premise that "how we think affects how we feel and act," and that we can change our thinking to change our emotions and actions.

4. Discuss books. The more involved with "big decisions," the better (see Flexer, 2018)!

A secondary benefit to advanced conversations

We don't want to overlook how the brain impacts our full "personhood." Advanced conversations have the potential to support emotional and social learning as well as cognitive understanding. For example, we have all had the experience of asking someone to be our "sounding board," allowing us to vent without interruption, and subsequently feeling better: less burdened (catharsis) or more clear about our next steps (an "aha" insight). However, we may not realize that only do we feel better, but our brains are changing in the process. Studies using imaging technologies have captured brain states before and after "talk therapy" sessions, and indicate long-lasting changes in the brain's neural network (Mason et al., 2017; Vaughn, 1998).

When we consider and identify the emotion being experienced, that cognitive act stimulates the prefrontal cortex and calms the amygdala's response, described neurologically as emotion regulation (Burkland et al., 2014; Lieberman et al., 2007), or as Siegel (2015) describes the process, "Name it to tame it" (p. 108). Speaking non-neurologically, these changes can be called insight.

Conclusion

Brains are shaped by experiences, especially when they are rapidly growing in size and neural connections. Experiences are not only additive; they also shape which neural circuits will be strengthened or pruned away (Knudsen, 2004; Siegel, 2015). Experiences are not limited to physical or sensory activities (travel; listening to music; eating unfamiliar foods). Experiences also include cognitive activity, including advanced conversations (Dahl & Suleiman, 2017). To that end, Sylwester (2007) suggests that as far as brain development is concerned, the best way to help teens is "to continue the conversation... Adolescent frontal lobes may not be mature but they are developing" and we can "enhance that development by elevating the rational level characteristic of adult conversation, even if it doesn't always work" (p. 92).

Adults working and living with teens are in a unique position to “grow” adolescent brains by offering opportunities for adult conversations about decisions, choices, consequences, and identity. Our challenge is to make the most of this “second window of opportunity,” to understand what teens care about, and help them understand themselves. (For informal guidance on how to support advanced conversations with teens, see Faber & Mazlish, 2006.)

Summary bullets for professionals and caregivers regarding advanced conversations with teens:

- Young people’s brains undergo rapid changes and growth in the teen years.
- Adolescence can be considered a “second window of opportunity” for supporting brain development.
- Adult-level or advanced conversations support a necessary stage called separation-individuation, wherein teens develop independence from family while identifying with peers. However, adults are still important to a teen’s development, especially as trusted listeners.
- For a teen with hearing loss, the decision to use or not use amplification is part of growing up.
- Advanced conversations about these decisions can be supported by self-assessments, cost-benefit analyses, reframing, and emotion regulation.
- Advanced conversations support the development of meta-cognition, theory of mind, mindfulness, and empathy.

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