

Evidence-Based *Bias*? Considerations for Confirmation Bias and EBP

Throughout the literature on evidence-based practice (EBP), readers and researchers alike operate under an assumption that speech-language pathologists (as well as other professionals) are able to consider all three levels of evidence—external (research), client, and professional—and come to an unbiased and impartial decision of what's best for a particular client (Dollaghan, 2004). However, decades of research on confirmation bias—the tendency to search for and interpret new information in a manner that confirms a person's preexisting beliefs or hypotheses—suggests that most of us are unlikely to consider current research and form a truly unbiased decision related to our clients. Rather, our decisions are much more likely to be impacted by confirmation bias, which is considered to be the most pervasive factor in human reasoning (Klayman & Ha, 1987; Nickerson, 1998; Oswald & Grosjean, 2004). Many psychologists believe that confirmation bias is a mostly unintentional and somewhat subconscious reaction of the brain to preserve beliefs and hypotheses (Nickerson, 1988). And the more personal or the longer the belief or hypothesis has been held, the more intense the confirmation bias may be (Jonas, Schulz-Hardt, Frey, & Thelen, 2001).

Interestingly, and not surprisingly, researchers have discovered that we tend to be more impartial and capable of hearing two opposing ideas or a body of new research and to come to a logical, unbiased conclusion if we are not invested in the outcome. If the topic or new findings have no direct impact on us, we are more likely to be able to conduct an “impartial review of the literature and arrive at an unbiased conclusion” (Nickerson, 1998). However, when a valued belief or firmly held hypothesis is at risk—when the outcome has the potential to impact our family, our clients, or our daily profession—then the motivation to preserve that belief or hypothesis is greatly heightened and confirmation bias is more likely to overtake our reasoning.

The stakes are high; we want our patients to succeed and we have gone through countless hours of training, practice, and continuing education to be able to conduct high-quality therapy. We would be remiss in our push for EBP if we didn't acknowledge that there is a lot at stake for SLPs when conducting EBP. To truly apply EBP, we must be willing to abandon previously held beliefs and hypotheses in favor of new and potentially unexpected findings. We must be willing to acknowledge that a favored treatment approach may be ineffective for a new patient. We must accept that the way we've conducted assessment and treatment in the past may not have been the best way. And to successfully change course, we must separate ourselves from the craft. Changing direction in the face of new evidence doesn't mean previous treatments were necessarily wrong or harmful. Rather, we must accept that we made the best decisions we could with the information we had at the time and recognize that new information leads to new decisions. However, acknowledging the past and changing course are nearly impossible for a therapist who is unable to separate himself or herself from the decisions and processes relevant to an appropriate speech-language therapy. According to the psychological research, confirmation bias is at its strongest when it is evoked to preserve a previously held belief even in the face of clear, undisputed external evidence (Friedrich, 1993).

Confirmation bias is a phenomenon of the human brain and the most pervasive factor in human reasoning. So if confirmation bias is poised to threaten the sincere application of EBP, how do we overcome it? Maybe we don't.

Perhaps our best response is to acknowledge that it exists and may unwittingly factor into our decision-making process. In her 2011 clinical forum, Bernstein Ratner offers several suggestions for addressing clinical uncertainty that may also be effective for overcoming confirmation bias. Although I discuss the most pertinent ideas here, I encourage readers to consider all the points raised in her article. First, question authority. I tell my students that quoting what “Dr. Schmitt” or any other professors have said is not a compliment! If we are doing our job as researchers, then cutting-edge information will be drastically different in 5 to 10 years. We must teach graduate students to question what they've learned as one strategy to minimize confirmation bias that originates in early learning experiences. Second, pursue new information. Bernstein Ratner highlights how to pursue new information in the form of research publications (i.e., accessing published research pertinent to a specific field or caseload). I encourage readers to pursue new information in three additional ways. First, surround yourself and converse with professionals from different backgrounds and those trained by different mentors. Confirmation bias that originates from relying on what you were taught holds less credibility if you consult with SLPs with different perspectives.

Second, attend continuing education unit (CEU) events that promote treatment approaches you disagree with. You do not need to change your mind, but try to confront your confirmation bias head-on by considering research, data, and outcomes of approaches you either have never tried or have been biased against. Third, try out new information. It would be easy enough to explore other ideas but then quickly discount the evidence related to your clientele. There are two sides to confirmation bias: looking for information that supports your hypotheses and rejecting new information that stands in opposition (Klayman, 1995). We can overcome some potential effects of confirmation bias when we are willing to try new approaches or techniques as appropriate for our clients and let the data drive our conclusions.

Researchers have worked for decades to tease apart the components of confirmation bias and understand its role in decision-making across a myriad of fields, including criminal investigations (Ask & Granhag, 2005), medicine (Tschan et al., 2009), and forensic anthropology (Nakhaeizadeh, Dror, & Morgan, 2014). Certainly the effect of confirmation bias and its role in EBP for speech-language pathologists has been grossly understudied and may be an important aspect of translational science for the field. Confirmation bias exists, has the power to affect our decisions, and must be consciously acknowledged when we decide on treatment approaches.

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