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Teachers' Corner

Unsubstantiated Treatments for ASD: Making Sense of the (Pseudo)Science



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We are living in a time where the majority of us living in developed societies have easy access to the internet. Information is now at our fingertips, literally. We have at our disposal devices that have internet capabilities that allow us to find information about any topic. Here within lies a problem: the information posted on the internet is not regulated for scientific accuracy.

The term *fake news* has been coined to describe propaganda intended to deliberately spread misinformation. The term has experienced a popular resurgence in recent years, most commonly referring to contentious social and political topics. The concept, however, is not new and has had a strong influence in education broadly and the education of students with autism spectrum disorder (ASD) specifically. Facilitated Communication (FC; Jacobson, Mulick, & Schwartz, 1995), Rapid Prompting Method (RPM; Lang, Harbison Tostanoski, Travers, & Todd, 2014; Hemsley, 2016), sensory integration therapy (Zimmer et al., 2012), and special diets (Whiteley, Rodgers, Savery, & Shattock, 1999) are a few examples of treatments that are widely used in the United States (Hanson et al., 2007) despite lacking empirical research to support their effectiveness. The use of unsubstantiated, or *pseudoscientific practices*, carries potentially dire consequences (Matson, Adams, Williams, & Rieske, 2013; Whitehouse, 2013). At one extreme these methods may physically harm the individual being “treated” such as the case with chelation therapy. A more common risk of using pseudoscientific practices results from delaying or even preventing individuals with ASD from accessing much needed evidence-based interventions that are more likely to produce favorable outcomes.

Sifting Science from Pseudoscience in Social Media

Our knowledge about ASD has grown exponentially over the last several decades. We now have a strong—and growing—body of research aimed at identifying effective evidence-based

practices (EBPs) for individuals with ASD (National Autism Center, 2015; Wong et al., 2015). Despite the existence of EBPs, pseudoscientific practices continue to be used. To understand why this happens, it may be helpful to understand how the public consumes information about autism that is posted on the internet, with a particular focus on social media outlets.

We conducted a study to explore the quantity and quality of information about ASD practices posted on the social media platform Facebook (Earixson & Fleury, 2018). The focus was on information posted during 2016 about interventions to support communication, specifically the Picture Exchange Communication System (PECS), which is an EBP, and an unsubstantiated practice called the Rapid Prompting Method (RPM). No differences were found in terms of the overall number of posts for each practice, with the majority of posts carrying generally positive emotional sentiment. There was a difference, however, regarding text readability. The text contained within posts about PECS were written at a higher level of text difficulty compared to that of RPM posts. Posts about RPM were written with lower text complexity, and therefore easier to read and understand, compared to posts about PECS.

This provides preliminary evidence to suggest that (1) consumers are able to access information about pseudoscientific practices with the same relative ease as EBPs; (2) Facebook users tend to post about treatments that they like, meaning that consumers can find posts that will confirm their biases regardless of scientific accuracy; and (3) posts about pseudoscientific practices are written with less text complexity, making them more comprehensible to consumers.

Implications for Practitioners

Incorporating EBPs as the foundation for instruction is mandated by federal legislation and aligns with the ethical principles that guide special educators' professional practice (Council for Exceptional Children, 2019). The following are specific tips for professionals and researchers to help combat the spread of misinformation about ASD and the use of pseudoscientific treatments.

1. Know the “Red Flags” of Pseudoscience

This first step to combating the use of pseudoscientific treatments with children with autism is to recognize them. Descriptions of fad treatments will use scientific jargon, appeal to logic, be supported by celebrities, and be frequently discussed by the media and on the internet. These treatments will not have a research base to investigate, and they will likely be recommended for any child with autism, regardless of level of support (Zane, Davis, & Rosswurm, 2008). For an illustration of the key differences between science and pseudoscience, see Travers (2017).

2. Attend to the Source

Readers do not automatically attend to the source providing information about autism (Fleury, Trevors, & Kendeou, 2019). Be critical of any new information about ASD and actively try to determine who is providing the information. If it is an unknown author or agency, practitioners can cross check the information with reputable nonprofit organizations such as the following:

- **National Professional Development Center on ASD** – <https://autismcdc.fpg.unc.edu/national-professional-development-center-autism-spectrum-disorder>
- **National Standards Project** – <https://www.nationalautismcenter.org/national-standards-project/>
- **Association for Science in Autism Treatment** – <https://asatonline.org/>
- **Organization for Autism Research** – <https://researchautism.org/>

3. Address Deficits in Background Knowledge

Teachers can be particularly influential in reducing the spread of misinformation, as they are commonly a trusted source for families, particularly for children receiving special education services (Adams & Christenson, 1998). The teaching licensure structure varies across states, with many states mandating specific endorsements or licenses specifically for teachers who educate students with ASD. These regulations have been enacted to better prepare educators to provide effective, evidence-based instruction for their students with ASD. Moreover, educators should be able to direct parents to credible sources for ASD information.

4. Engage in the Conversation

Pseudoscientific beliefs and treatments are frequently disseminated through different media outlets such as movies, news publications, and the internet, while the evidence discrediting them is published by researchers in journals whose primary audience is other researchers. This leaves consumers without access to scientific evidence, which may leave them unaware that it even exists (Ganz, Katsiyannis, & Morin, 2018). This points to a pressing need for researchers to disseminate their work to broader public audiences. Researchers should be encouraged and supported in publishing their work in accessible language in outlets commonly used by broader public audiences.

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