THE INFODEMIC: SUSCEPTIBILITY TO MISINFORMATION AMONGST CHILDREN

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Earlier this year, the World Health Organization declared an infodemic[1]: an "excessive amount of information about a problem that is typically unreliable, spreads rapidly, and makes a solution more difficult to achieve"[2]. Recently, researchers found that 24.8% of tweets included misinformation, while 17.4% included unverifiable information.[3] Most commonly, misinformation is a reconfiguration of existing information sourced from corporations, governments, and the media. For example, in the tweets researchers were analyzing, topics of misinformation ranged from medical/public health, financial, and/or sociopolitical.[3] This can be a danger to public safety, especially during a global pandemic when people rely on social media to inform the preventative actions they take. Although children may be disproportionately affected by misinformation, education can help minimize those effects.

Younger children may be especially susceptible to misinformation due to their lack of cognitive maturity in terms of their multi-representational abilities, memory abilities, and formation of schemas. Multi-representational abilities allow one to simultaneously hold and compare different representations of an event, which aids in identifying misinformation.[4] Research has shown that forgetting the source of the information increases susceptibility to misinformation more than forgetting event details, however, further research is necessary to understand the exact mechanism for this finding.[5] A child's susceptibility to misinformation is further increased by their developing schemas: representations of information about common relationships that are formed across multiple periences.[6] Although little is known about how children and adolescents form schemas, it is evident that schemas are not fully developed until adulthood, reflecting the ongoing maturation of the

hippocampus and prefrontal cortex throughout adolescence.[6] Due to these developing and temporal schemas, children are more accepting of information regardless of its veracity.[7]

However, research has shown that education can have an immense impact on critical thinking development.[8] Strategies used to enhance critical thinking skills include actively engaging students in learning, focusing on the knowledge acquisition process, and case-based and collaborative learning.[8] A prospective study comparing problem-based learning (PBL) and lectures found that PBL significantly increased truth-seeking and ability to be systematic, key components of critical thinking.[9] Additionally, source monitoring cues that question the source of information is an effective strategy that helps children 6-8-years-old in differentiating between real and fictional events[10] Moreover, teaching skills to identify fake news in schools and constructing legal measures to hold news outlets and authors accountable can limit the spread of misinformation.[11] As such, problem-based learning, source monitoring, and changes to the curriculum can all potentially aid a child's critical thinking development.

Misinformation has had detrimental effects throughout the COVID-19 pandemic, resulting in polarization, vaccine hesitancy, and governmental skepticism[12] Accordingly, it is vital to incorporate education in children's curriculum based on an understanding of a child's development of cognitive skills. From there, children can be equipped with the abilities and skills needed to combat misinformation. By understanding early cognitive development, we can enable children to critically evaluate information, thereby preventing the harmful impacts of misinformation on society as a whole.

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