

The relationship between social media platforms and adolescents:

Uncovering the Impact of Social Media Misinformation about Health on Teenagers' Cognitive
Perceptions and Belief Systems

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Abstract:

With the rapid speed at which modern society is developing in all areas, particularly technology, social media is becoming increasingly vital in adolescents' lives, offering them unprecedented access to cross-cultural communication and diverse knowledge. However, the platforms also make those digital natives vulnerable to misleading concepts and information, bringing high risk in constructing their immature cognitive perceptions and belief systems. This essay delves into exploring the role of social media misinformation, focusing on the area of health, in distorting reality, reinforcing bias, and overwhelming young people, which in turn leads to well-being issues such as irritability and anxiety. In addition, psychological theories, such as social learning theory and social identity theory, are included to explain and comprehend the problem further from both individual and societal perspectives. Finally, the essay highlights possible solutions and improvements in resolving the negative intertwining between social media and misinformation.

Keywords: health, social media, misinformation, teenagers, cognition and belief system

Introduction:

Health is a hot topic that attracts wide attention. Adolescents are frequently exposed to a vast array of health-related information, from fitness advice to nutritional tips, since there are many hashtags like #healthylifestyles and #fitnesscheck with an average of 13% more engagement (Clark, 2020) on social media platforms. Consequently, it has caught fire and inspired countless adolescents to start posting videos about their 'healthy' lives, which unintentionally shapes unhealthy cognitive and belief systems. Misinformation and rumors are common problems that face media outlets of all stripes. It is, though, worse in the case of digital social media in which teenagers are taking up a sizable portion of the overall users. The operating mechanisms and easy accessibility enable almost every individual to share their ideas on the internet and spread invalid and unconfirmed information timely (Thai, Wu, and Xiong, 2016). Teenagers, as those in the developmental stage who are still forming their worldviews and identities, are likely to be easily affected by exposure to snackable content.

The inadvertent spread of false or inaccurate information without intent to harm is known as misinformation (Palfrey, 2024). In the historical perpetual flow, misinformation has existed for a long time. For example, Nazi propaganda, dating back to World War II, employed radio and printed press to propagate false information and seize power (Herf, 2005). The advent of social media has further accelerated the process of spreading both positive and negative messages. Senders can reach billions of individuals in a second (Kozyreva, Lewandowsky, and Hertwig, 2020). While social media is useful in connecting the world and sharing the latest news, the pervasive spread of health-related misinformation significantly distorts teenagers' cognitive

perceptions and belief systems, leading to the adoption of harmful health behavior, psychological distress, and distrust of credible information that disconfirm prior beliefs.

Impact of misinformation, in the area of health, on developing cognitive perceptions

In psychology, cognition refers to the mental process of acquiring and understanding the world through sensory inputs, while perception refers to the ability to sense and become aware of the surroundings (Rafique, 2023). Adolescence is a stage where the brain undergoes important changes and is marked as vulnerable. Teenagers, in this case, are developing but not yet mature enough to distinguish the overwhelming information online. According to professors at the University of Cadiz Victor and Javier, online content related to diseases, such as noncommunicable pandemics, is reported with a misinformation rate of 40% (Suarez and Alvarez, 2021). Teenagers' understanding of health-related concepts, thus, can be easily distorted. To be more particular, misinformation related to health can negatively affect adolescents' memory and cognitive function abilities— all specific cognitive domains. First of all, misinformation creates false memories, where individuals remember facts that never occurred or testified. When individuals are repeatedly exposed to misinformation, it can interfere with the retrieval of accurate memories, which distorts teenagers' understanding of the real world. For example, if a teenager frequently reads erroneous material about vaccination hazards, inaccurate information may stick in their memory, which develops their negative perception about getting immunizations. Secondly, misinformation incompletes teenagers' cognitive framework. Psychologist Bandura proposed the theory of 'social learning theory,' which suggests that people learn new behaviors by observing and imitating others (McLeod, 2024). Teenagers, in the digital age today, are more associated with influencers and celebrities through

social media and serve them as powerful role models. However, a lot of these famous figures promote misinformation. Science Intelligence, for instance, suggests that supermodel Campbell's diet, encouraging people to eat nothing but maple syrup, lemon, and pepper for a period of two weeks, has no scientific basis at all (Foodmate, 2010). Having great trust in celebrities, teenagers learn a lot of 'how to be healthy', which is actually harmful to their bodies. The essential trust and learning limit teenagers' cognitive system since they are very likely unable to fully embrace other perspectives that might attack the pseudoscience propagated by their idols. When teenagers keep learning misinformation, their cognition will become narrow and biased. Last but not least, misinformation makes teenagers' cognitive schema flawed. Cognitive schema refers to mental representations used to simplify decisions. (McDonough, 2024). Health misinformation easily leads to the development of faulty schema that can persist into teenagers' later lives and negatively affect their exercise habits and diets, which limits their critical thinking skills and reflection skills since adolescents may begin to accept information at face value without questioning its quality. When they are forming inaccurate perceptions of health, they can only generate false schema in the future in turn.

Impact of misinformation, in the area of health, on constructing belief systems

Belief systems are networks of interrelated concepts and propositions that help humans make sense of reality (Usó-Doménech and Nescolarde-Selva, 2015). The construction of belief systems shapes how individuals perceive the world. Health-related belief systems, in particular, are influential on teenagers' behaviors and attitudes toward well-being, medical care, and exercise. From bogus weight loss advice to fat-diet tutorials to legitimate medical advice, all that information is exposed to adolescents online. Henri Tajfel and John Turner suggested the 'social

identity theory,' which posits that people derive a portion of their self-concept from their membership in social groups (McLeod, 2023). Adolescence is a stage where friendship and peer groups are especially significant. Teenagers, in this case, can easily adopt false beliefs when everyone else is advocating them. Fitting in is much more important than being right, which makes falsehood and false concepts easy to be embedded and hard to correct if misinformation prevails. For instance, in the 1960s, American scientists proposed the USDA food program that suggests consuming more carbs can improve bodily health (Dingyi, 2022). During that time, this proposal gained so much traction that my aunt Sarah and her friends would compete every day to see who could consume the most carbohydrates. Despite scientific evidence now showing that consuming too many carbs is detrimental to human health, Sarah still has to consume carbohydrates on a daily basis since she firmly believes it is healthy. The practices of misinformation reinforce the rooted belief system and encourage teenagers to engage in unauthorized behaviors such as using unregulated fitness facilities. Secondly, misinformation can engender well-being-related issues. Belief systems are the forces that support an individual's work in the world. When teenagers are exposed to misinformation established and scientifically refuted belief systems for a long time during their developmental stage, they are likely to reject the claims of other authoritative scholars that challenge their beliefs. This conflict of beliefs can easily make teenagers feel anxious and depressed since their false internal beliefs are not supported by credible sources.

Role of social media in combating misinformation and Possible solutions

Though social media is a useful tool to spread information, it also breeds misinformation.

Facebook is a typical example. In 2009, it introduced a function called 'Like' as the first social

platform that brought in a quantitative metric to measure the popularity of content. (Phys, 2014). Algorithms designed to maximize user engagement often prioritize content that is sensational, controversial, and unexpected, which are common features of misinformation. As a result, social media has evolved from being a place to converse and unwind to a stage where users perform to receive likes, shares, and retweets. However, this is unacceptable. Social media can actually play a significant role in combating misinformation rather than spreading misinformation. First of all, it can play the role of educating users with authoritative health-related information. The easiest way is to set up direct partnerships with health organizations. For example, platforms can invite professional doctors and host Q&A sessions to provide reliable information on COVID-19. Secondly, social media should play the role of promoting digital legacy. Instead of having algorithms that encourage people to post vulgar and misleading content, all the platforms can implement in-app systems that prioritize the accuracy of the information. They can highlight credible sources by using icons like stars or flags.

Conclusion

In summary, social media is actively involved in the lives of adolescents, which makes its role in preventing misinformation, a prevailing type of information, bigger. It is undeniable that social media is indeed connecting the world closer and providing teenagers with opportunities to interact with people from different groups and companies “who share their identities” (Weir, 2023). On the other hand, it is also inevitable that social media brings serious negative impacts to those developing individuals. Teenagers, who are at a crucial stage of forming their values and worldviews, are a critical group to keep an eye on. They are digital natives but also the future. The impact of misinformation related to health on those vulnerable minds is the most obvious

and significant. By identifying the possible influence misinformation has on teenagers' cognitive and belief systems, the importance of solving such an issue is well-marked. The future direction of studying social media misinformation is, therefore, clear. Operating mechanisms behind all the platforms should be improved and regulated more so as to ensure that young people are equipped to make informed health decisions.

-1496 words

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