ADHD and Film Watching: Unveiling the Impact on Attention, Confidence, and Cinematic Experience

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ABSTRACT

ADHD, a neurodevelopmental condition impacting millions globally, is characterized by symptoms such as inattention, hyperactivity, and impulsivity. While existing research has investigated ADHD in various contexts, this study sheds light on how individuals with ADHD perceive and engage with cinematic narratives, specifically examining overconfidence. Individuals overestimate their abilities and impulse activities on this cognitive bias, like skipping through videos. By examining the mental and emotional processes involved in comprehension among those with ADHD, this paper seeks to understand how overconfidence influences their interpretation of cinematic stories and characters. The literature review discusses the intricate connections between ADHD, attention deficits, impulsivity, and self-perception. ADHD patients tend to have deficits in attention span and self-perception, indicating a Positive Illusory Bias (PIB) where individuals overestimate their abilities. For the study, 300 participants were exposed to a video and assessed using the CAARS scale to measure ADHD symptomatology levels, perceived likeability of characters, confidence in judgments, and time spent watching the video. Results indicate a negative correlation between ADHD symptomatology and video watch time, with higher ADHD levels associated with earlier self-truncation. Mediation analysis suggests that participants' confidence in judgments mediates this relationship, with higher ADHD symptomatology linked to greater confidence and decreased video watch durations. The findings contribute to understanding how individuals with ADHD perceive and interact with cinematic storytelling, emphasizing the need for empathy and awareness in accommodating their unique perspectives and tendencies.

Introduction

Envision the excitement of occupying a dimly lit cinema, the scent of popcorn permeating the atmosphere, and the anticipation intensifying as the film unfolds. While this cinematic encounter is a pleasurable experience for many, offering an opportunity to immerse oneself in compelling narratives and intricate characters, it manifests differently for the millions contending with Attention Deficit Hyperactivity Disorder (ADHD). This research delves into a less-explored facet of ADHD, shedding light on the tendency of individuals with ADHD to exhibit unwarranted confidence in their capacity to comprehend the complexities of a movie's storyline or characters. Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental condition affecting around 8.7 million adults globally, characterized by symptoms such as inattention, hyperactivity, and impulsivity. While the challenges associated with ADHD have been investigated across various contexts, an intriguing and relatively unexplored phenomenon pertains to how individuals with ADHD perceive and engage with narratives in the realm of cinematic storytelling.

Cinema is a potent storytelling medium that evokes intense emotional responses and fosters profound engagement with narratives and characters. Nonetheless, for individuals with ADHD, this immersive experience may simultaneously captivate and frustrate them. Within this cinematic landscape, the study aim to com-

prehend the implications of overconfidence—a cognitive bias where individuals tend to overestimate their abilities—on comprehending intricate narratives and character dynamics. How does ADHD influence these individuals' perception of the cinematic world, and in what ways might their overconfidence impact their understanding of stories and characters?

This paper addresses these inquiries by scrutinizing the distinctive cognitive and emotional processes involved in comprehension among those with ADHD. The study will explore the neural mechanisms propelling overconfidence in the context of cinematic narratives and examine how this overconfidence can influence the lives of individuals with ADHD and those in their immediate surroundings. Through this exploration, the paper aims to not only to augment collective comprehension of ADHD but also to offer insights that may prove beneficial to educators, therapists, and filmmakers. By comprehending how ADHD intersects with the cinematic realm, the study aspires to foster a more inclusive and empathetic society. Society seek to ensure that individuals with ADHD can fully embrace the enchantment of cinema, interpreting stories and characters in their unique manner, while simultaneously encouraging the rest of society to appreciate their distinctive perspectives and challenges in this cinematic voyage.

Literature Review

Attention Deficit Hyperactivity Disorder (ADHD) manifests as a neurodevelopmental condition marked by inattention, hyperactivity, and impulsivity, impacting individuals' focus on stimuli like videos and films. An understanding of the intricate connections between ADHD, attention deficits, impulsivity, and self-perception is crucial for tailoring effective interventions to the unique needs of those with ADHD.

Research by Saylor & Amann (2016) points out impulsive aggression as a common comorbidity in children and adolescents with ADHD, predicting unfavorable developmental trajectories and psychosocial challenges. This impulsive aggression can perpetuate ADHD symptoms, accumulate comorbidities, and result in functional deficits across multiple domains. Additionally, Winstanley et al. (2006) link impulsive choice behavior to ADHD, suggesting that inattentive, overactive, and impulsive behaviors may arise from delay-aversion tendencies, contributing to the characteristic symptoms of ADHD.

Moreover, deficits in attention span and focused attention observed in individuals with ADHD (Zago et al., 2008) can significantly impact how they engage with tasks and stimuli, influencing confidence levels. Positive Illusory Bias (PIB) is a psychological phenomenon where individuals, particularly those with specific psychological or developmental conditions like ADHD, tend to overestimate their abilities and attributes in comparison to others. The Positive Illusory Bias (PIB) further complicates self-perception, leading to overestimating skills that may not align with actual performance. Hoza et al.'s (2004) investigation into self-perception in children with ADHD offers insights into potential disparities in how they perceive their abilities compared to non-ADHD peers, providing essential information for tailored interventions.

Anxiety, as noted by Fournier et al. (2020), introduces a dual effect in individuals with ADHD, reducing inhibition deficits but negatively impacting attention and working memory. This complex interplay between ADHD symptoms, comorbid conditions, and attentional processes underscores the multifaceted nature of ADHD. Exploring decision-making, Mäntylä et al. (2010) highlight cognitive challenges individuals face with ADHD, influencing their perception of tasks and confidence in decision-making.

The Conners' Adult ADHD Rating Scale (CAARS), a widely used tool, assesses ADHD symptoms in adults, encompassing inattention, hyperactivity-impulsivity, and an ADHD index. Validated across languages and populations, the CAARS demonstrates utility in screening and diagnosing ADHD (Boomsma et al., 2010; Asherson et al., 2014).

Methodology

Participants

Data from 300 participants was collected in total (167 Male; 133 Female). 60 of the sample identified as conservative 185 of the sample identified as liberal, and the rest had moderate positions. 89.3% of the sample had at least some form of college education.

Procedure

Data and responses for the experiment were collected using Microsoft Excel, Google Sheets, and Qualtrics. After obtaining informed consent from participants, they were exposed to a video designed to present two contrasting impressions of the same individual. The participants were instructed to watch a 60-second video, answer a series of questions about it, and complete the CAARS scale.

The initial segment of the video depicted a woman portraying a caring mother or nurse tending to a sick child by preparing a meal. Subsequently, the narrative unfolded, revealing that the woman had actually caused the child's demise by introducing a harmful substance into the meal. After viewing the video, participants were asked to assess their perception of the portrayed woman's likeability and their confidence in their assessments. Demographic information was then collected, and participants were debriefed. Perceived Likeability was measured using a single item: "Please rate how helpful the woman in the video would be at nursing a sick child?" with a scale ranging from 1 (not helpful at all) to 7 (extremely helpful). Confidence in judgment was assessed with the question: "How confident are you in your judgment of this woman's helpfulness?" on a scale from 0 (not confident at all) to 100 (extremely confident). ADHD symptomatology levels in participants were measured using the CAARS (Conners Adult ADHD Rating Scale), consisting of 13 questions indicating ADHD symptoms.

Table 1. Variable Name and Descriptions of Data

Variable Name	Description
ADHD	ADHD symptomatology levels, calculated by averaging 13 ADHD scale questions from CAARS (Conners Adult ADHD Rating Scale)
Likeability	Perceived Likeability of the Protagonist in the Film, Scale from 1 (not helpful or likable at all) to 7 (extremely helpful and likable)
Confidence	Confidence in the judgment of the protagonist. Scale between 0 (not confident at all) to 100 (extremely confident)
TimeSpent	Time spent starting and finishing the video in seconds.
Sex	Sex of Participant
Race	Racial Background of Participant

Results

Table 2 and Figure 1 give the descriptive statistics of each individual variable and the distributions of the data.

Table 2. Descriptive Statistics

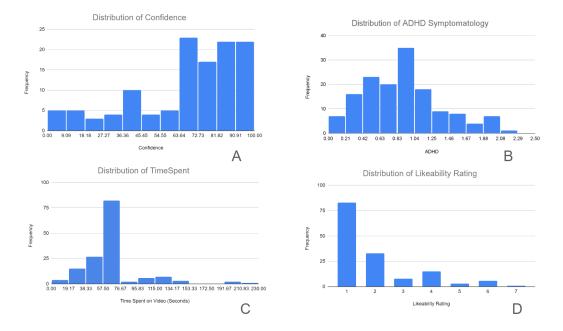|	ADHD	Likeability	Confidence	TimeSpent
N	300	300	300	300
Mean	2.60	4.03	67.8	22.1
Std Dev	0.534	1.92	19.9	17.0

Figure 1. Distributions and Frequencies of Confidence, ADHD Symptomology, TimeSpent and Likeability.

To investigate the potential impact of elevated ADHD-like symptomology on the premature self-truncation of the video, a Pearson correlation test was performed on the variables TimeSpent and ADHD. The findings indicated a significant negative correlation, with participants exhibiting higher levels of ADHD-like symptoms stopping the video earlier, $r(298) = -.469$, $p < .001$. This negative correlation suggested that increased levels of ADHD-like symptomology were associated with earlier self-truncation of the video.

Subsequently, to explore whether participants' reported confidence in their judgments played a mediating role in this premature self-truncation, a mediation analysis was conducted. The results revealed a significant indirect effect, as the confidence interval did not encompass zero, 95% CI [-2.78, -.038]. This implies that individuals reporting higher levels of ADHD-like symptoms tended to express greater confidence in their judgments, contributing to the observed pattern of decreased video watch durations.

Conclusion

The results of the study indicated a positive correlation between the level of ADHD symptomatology and participants' confidence, while a negative correlation was observed with their watch time of the video clip. All

three variables were found to be interrelated, and the strength of the correlation between confidence and earlier self-truncation of the video clip was robust, supported by a confidence interval for the indirect effect that did not encompass zero. The negative correlation between higher levels of ADHD and earlier self-truncation was evident from the negative value of the correlation coefficient (r). Overall those with higher ADHD symptomatology scores were more likely not to finish the video (self-truncate) and have overconfidence in their perception of the protagonist.

In the context of previous literature, the CAARS (Conners Adult ADHD Rating Scale) has previously suggested that overconfidence may be a recognized symptom of ADHD. Existing literature can also further strengthen that individuals with ADHD tend to overestimate their competence compared to objective measures of competence. Positive illusory bias (PIB) is identified as a contributing factor to this overconfidence in various studies (Owens et al., 2008; Gerdes et al., 2003; Hoza et al., 2004; Hoza et al., 1993; Jia et al., 2016; Owens & Hoza, 2003; Scholtens et al., 2012). The study also highlights a significant correlation between hyperactivity, like self-truncation, and overconfidence.

Beyond its implications for filmmakers considering audience engagement, the research has broader societal implications. Individuals with ADHD perceive others differently, potentially impacting their daily lives and overall quality of life. Acknowledging the limitations, including the complexity of ADHD diagnosis and potential controversies surrounding diagnostic scales, the study underscores the need for nuanced understanding. While some symptoms in the CAARS may indicate lower confidence, the study emphasizes the existence of a noticeable difference in how individuals with and without ADHD perceive the world, offering insights valuable in both film-related and everyday-life contexts. The findings contribute to a deeper understanding of the perspectives of individuals with ADHD, fostering empathy and awareness.

Acknowledgments

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