Hollywood's Newest Writer: Exploring Perceptions of Artificial Intelligence (AI) in Film Screenplays

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Introduction

Today, as the capabilities of **artificial intelligence (AI)** advance, there are more conversations about how the integration of AI impacts creative fields (Bigman et al., 2019). The 2023 Writers Guild of America Strike showcases the collective voice of over 11,000 screenwriters who championed policy against the use of AI in film and TV. This research aims to understand whether audiences perceive AI-generated content for film as effective as authentic screenplays in capturing human nuance. This discussion is consequential due to the pressing debate about the ethicality and role of AI in media consumption.

The principles of the **Theory of Planned Behavior** contextualize this research (Ajzen, 1991). Although AI generated content is possible with current technology, this does not necessarily mean that consumers will support such content with their dollars. For entertainment, this means streaming or purchasing movie tickets for AI generated screenplays. Not only does the study examine audience attitudes toward AI-generated content, but it also considers their perceived behavioral control in interacting with content created by AI. Previous research details the impact AI content has on emotion (Kobis & Mossink, 2021). This study builds upon that literature by exploring how AI-generated content influences consumption intention.

Research Questions:
RQ1: How do participants perceive AI-generated screenplays compared to those written by humans in regard to author authenticity, emotional connectedness, and overall interest?

RQ2: Does the presence or absence of film festival accolades affect the relationship between authorship and screenplay satisfaction?

RQ3: How likely are participants to watch AI-generated content via streaming platforms or in movie theaters?

Methods and Materials

Participants: 153 participants (99 males and 54 females) were recruited from Amazon's Mechanical Turk. Participation was limited to participants located in the United States with a past approval rating in the Mechanical Turk system above 70%. The majority of participants (51.0%) were aged between 25-34. Most participants were Caucasian (87.6%).

Procedure: The study was conducted through an experiment using a 2 (AI or human authorship) x 2 (presence or absence of film festival accolades) factorial design. Stimuli for the experiment were screenplay snippets created using the large language model, ChatGPT 4.0. A temperature of 0.5 was used in prompt creation, indicating a midway balance between predictability and creativity. Additionally, principles from Liu et al. (2023) research on prompt engineering for content creation were used. The dependent variables consisted of 31 questions. The dependent variables were divided in four sections: participants' level of interest in screenplay, willingness to watch or purchase further content based on the screenplay, emotional connectedness and perceived authenticity of author.

Research Model:
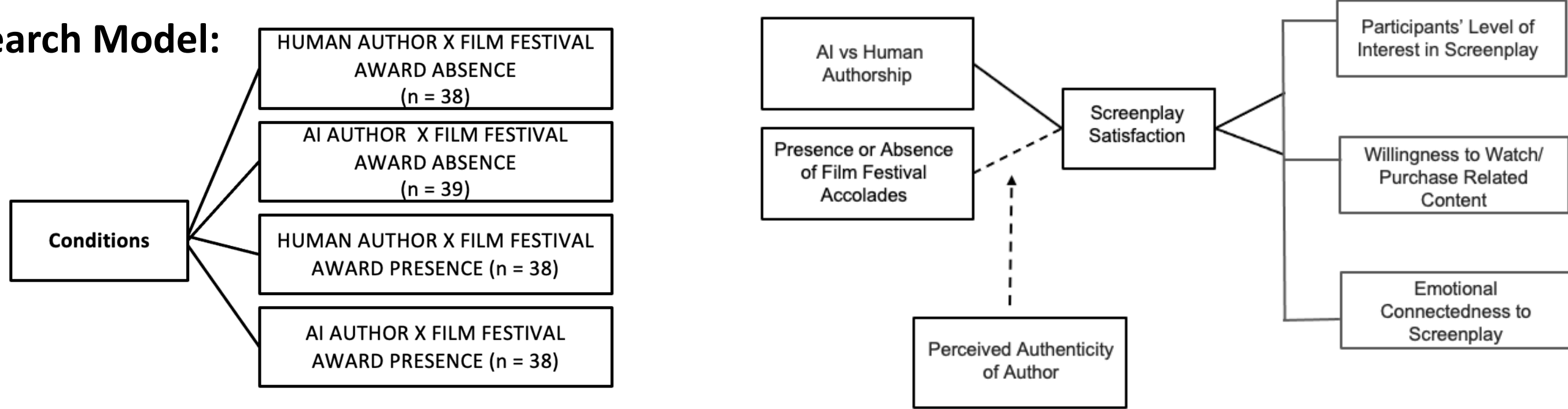
Results

A two-way between-subjects ANOVA examined the effect of 2 (Authorship: Human vs AI) and 2 (Film Festival Accolades: Absence vs. Presence) on screenplay interest. The main effect of Authorship, $F(1, 149) = 1.58$, $p = .211$ was not significant, however, the main effect of Film Festival Accolades was significant, $F(1, 149) = 4.24$, $p = .041$. The interaction effect of Authorship and Film Festival Accolades was also significant, $F(1, 149) = 4.08$, $p = .045$. Absence of film festival accolades ($M = 4.24$) was significantly higher than presence of film festival accolades ($M = 3.82$). However, human authorship ($M = 4.16$) and AI authorship ($M = 4.15$) did not significantly differ.

Another two-way between-subjects ANOVA examined the effect of 2 (Authorship: Human vs AI) and 2 (Film Festival Accolades: Absence vs. Presence) on emotional connectedness. No main effect of Authorship, $F(1, 149) = .02$, $p = .887$, was found, and the main effect of Film Festival Accolades, $F(1, 149) = .20$, $p = .652$, was also not significant. The interaction effect of Authorship and Film Festival Accolades on emotional connectedness was not significant, $F(1, 149) = .05$, $p = .827$. Absence of film festival accolades ($M = 4.15$) was not significantly higher than presence of film festival accolades ($M = 4.09$) and human authorship ($M = 4.13$) and AI authorship ($M = 4.11$) also did not significantly differ.

The PROCESS macro model number 4 was utilized to examine a simple mediation model where perceived authenticity of author was hypothesized to mediate the effect of AI or human authorship on interest in screenplay (Hayes, 2017). The indirect effect of authorship on interest in screenplay through perceived authenticity of author was not significant [B= -.02, 95% C.I. (-.08, .019)], suggesting no mediation occurred. Similarly, trust did not mediate the relationship between willingness to watch or purchase future content [B = -.07, 95% C.I. (-.24, .07)] and emotional connectedness [B = -.03, 95% Boot C.I. (-.08, .02)].

A series of two correlations were conducted for participants who viewed AI-generated screenplays. Interest in screenplay and likelihood to purchase a movie ticket for the full production was found to have a significant positive correlation ($r = .78$, $p <.001$) as well as likelihood to watch the full production of screenplay on streaming ($r = .30$, $p = .008$).

Mediation Analyses
"PROCESS" macro, model 4, v4.1 (Hayes, 2017)

Perceived authenticity does not mediate X and Y
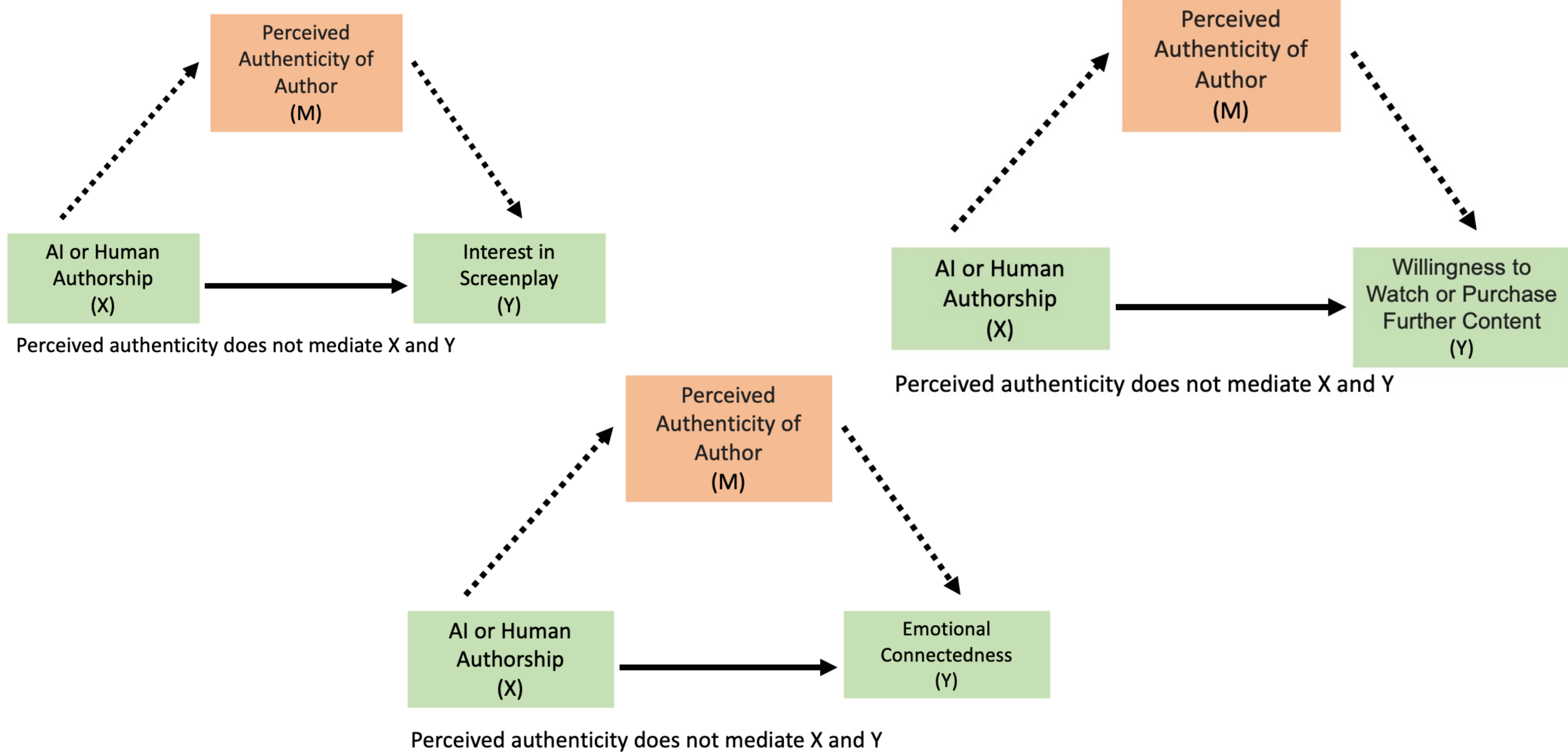
Discussion

The current study aimed to understand how differences in authorship (human vs AI) affect participants overall screenplay satisfaction. Results illustrated that authorship does not directly influence interest in the screenplay. Furthermore, this influence does not change depending on how authentic or trustworthy the author is perceived to be. This might suggest that other factors besides trustworthiness are driving interest. Moreover, the presence or absence of film festival accolades had a significant impact on screenplay interest. Screenplays without film festival accolades had higher interest scores compared to those with accolades. This may suggest that participants want to evaluate for themselves the quality of a film screenplay rather than being told it is of a certain merit. The significant positive correlations found in participants who viewed AI-generated screenplays and their likelihood to purchase a movie ticket or watch the full production on streaming provide additional context. These correlations show that for AI-generated screenplays, higher interest is associated with a higher likelihood of engaging with the full production in the future.

Two-Way Between-Subjects ANOVA
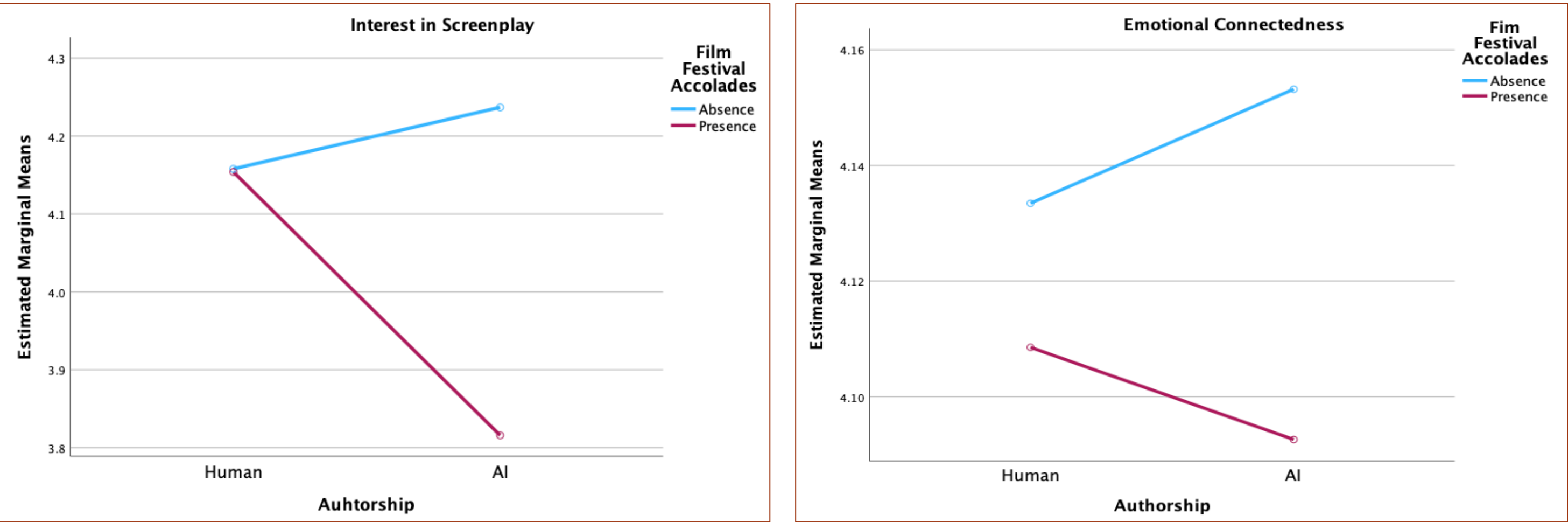
Correlation Analysis
Participants who Viewed AI Generated Screenplay

Variables	r	p	Correlation
Interest in screenplay and likelihood to purchase a movie ticket for the full production	.78	<.001	Significant Positive Correlation
Interest in screenplay and likelihood to watch the full production of screenplay on streaming	.30	.008	Significant Positive Correlation

Implications & Limitations

This study illuminates that average American moviegoers are not immune to favoring AI-generated content. The indifference in interest across conditions underlines the harsh reality for film creatives who are worried of increased prominence of AI in their field. Going forward, there must be conversations amongst entertainment executives about regulating the use of AI in creative industries. This challenge becomes even more daunting as the capabilities of large language models progress.

This study is not without limitations. It is difficult for participants who have never read a screenplay to translate dialogue and action lines into a cinematic vision accurately. Future research should replicate this study and use film snippets as stimuli. As AI advances, so does the need for research around how its content is perceived.

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