

ALETHEIA

Alpha Chi's Journal of Undergraduate Scholarship

Volume 11 | 2026

The Horrors of Gender Bias: A Study of the Relationship Between the Haunted Attraction Industry and Gender

Abbigail Earley

Carson-Newman University
Tennessee Delta

Aletheia Vol. 11, 2026

Title: The Horrors of Gender Bias: A Study of the Relationship Between the Haunted Attraction Industry and Gender

DOI: 10.21081/ax0440

ISSN: 2381-800X

Keywords: gender, implicit bias, sex, haunted attractions

This work is licensed under a Creative Commons Attribution 4.0 International License. Author contact information is available upon request from aletheia@alphachihonor.org.

Aletheia—The Alpha Chi Journal of Undergraduate Scholarship

- This publication is an online, peer-reviewed, interdisciplinary undergraduate journal, whose mission is to promote high quality research and scholarship among undergraduates by showcasing exemplary work.
- Submissions can be in any basic or applied field of study, including the physical and life sciences, the social sciences, the humanities, education, engineering, and the arts.
- Publication in *Aletheia* will recognize students who excel academically and foster mentor/mentee relationships between faculty and students.
- In keeping with the strong tradition of student involvement in all levels of Alpha Chi, the journal will also provide a forum for students to become actively involved in the writing, peer review, and publication process.
- More information can be found at www.alphachihonor.org/aletheia. Questions to the editors may be directed to aletheia@alphachihonor.org.

Alpha Chi National College Honor Society invites to membership juniors, seniors, and graduate students from all disciplines in the top ten percent of their classes at hundreds of college campuses nationwide. Since the Society's founding in 1922, Alpha Chi members have dedicated themselves to "making scholarship effective for good." Alpha Chi is a member in good standing of the Association of College Honor Societies, the only national certifying body for collegiate honor societies. To learn about chartering a chapter of Alpha Chi on your campus, visit AlphaChiHonor.org/charter.



Title: The Horrors of Gender Bias: A Study of the Relationship Between the Haunted Attraction Industry and Gender

DOI: 10.21081/ax0440

ISSN: 2381-800X

This work is licensed under a Creative Commons Attribution 4.0 International License.

The Horrors of Gender Bias: A Study of the Relationship Between the Haunted Attraction Industry and Gender

Abbigail Earley

Carson-Newman University
Tennessee Delta

Abstract

This study examines gender attribution and implicit bias within the haunted attraction industry, focusing on how customers assign gender to scare actors whose identities are obscured by costuming, makeup, darkness, or hidden locations. Using a mixed-methods design, data were collected through a vignette-based survey administered to members of the general population ($n = 46$) and semi-structured interviews with haunted attraction workers ($n = 22$). The study explored whether customers disproportionately assume scare actors are male and whether such assumptions are associated with cultural beliefs linking masculinity and aggression. The results did not provide sufficient empirical support for either hypothesis. While interview and survey responses revealed patterns of gendered role assignment, misgendering, and media-influenced character associations, the small sample size, non-random recruitment, and reliance on self-reported perceptions limit the strength of the conclusions. Rather than confirming the proposed hypotheses, the findings raise new questions regarding how ambiguity, occupational norms, and cultural stereotypes shape gender assumptions in immersive environments. Methodological limitations, conceptual ambiguities, and directions for future research are discussed.

Keywords: *gender, implicit bias, sex, haunted attractions*

Introduction

In the fall of 2023, the researcher was employed as a scare actor at Nightmare Manor, a haunted house attraction in Talbott, Tennessee. The role involved remaining concealed beneath a table draped with cloth, preventing customers from seeing the actor. When customers passed nearby, the actor would extend an arm through an opening in the fabric and grab their legs as part of the scare. In response, customers most frequently referred to the hidden actor using masculine pronouns when speaking to others (e.g., “He grabbed me,” “He’s under the table”). Less commonly, customers used gender-neutral pronouns (*they/them*) or indefinite references such as “someone” or “somebody.” References using feminine pronouns were rare. For reference, the researcher was assigned female at birth and identifies as a woman who uses *she/her* pronouns. These repeated interactions prompted the researcher’s interest in understanding why customers appeared to default to a masculine gender attribution in the absence of visual or verbal gender cues, thereby motivating the present study.

Literature Review

Knowledge of the haunted house industry

Haunted attractions rely on the concealment or distortion of actors’ physical appearances to enhance fear and unpredictability. Makeup, masks, prosthetics, costumes, and lighting are routinely used to obscure facial features, body shape, and other characteristics commonly associated with gender identification (Soloski, 2021). In some cases, scare actors are entirely hidden until they physically interact with customers, further reducing available gender cues. Despite these conditions, customers frequently attempt to interpret and label the identity of the performer, suggesting that gender attribution may occur even in the absence of clear information.

Implicit biases surrounding gender

Implicit gender biases are invisible cognitive forces within individuals that influence both internal and external interpretations and experiences of the social construct of the gender binary (i.e., man and woman) that has become a part of one’s culture, eroding one’s ability and desire to work toward gender equality (Shuck et al., 2023). Research has shown that many individuals implicitly associate men with leadership, dominance,

competence, and authority, while women are more often associated with submissiveness or caregiving roles (Alzahrani et al., 2022; Pritlove et al., 2019). Importantly, implicit bias does not operate uniformly across individuals or contexts, nor does it necessarily result in intentional discrimination. Rather, it reflects culturally learned associations that may influence interpretation under conditions of uncertainty.

Implicit biases are often measured using tools such as the Implicit Association Test (IAT), which assesses rapid categorization responses that occur before conscious deliberation (Greenwald et al., 1998). The test has the participant view words or images and quickly group them into the category they see fit; for example, they may give the participant the word *scientist* and have them quickly choose whether the word fits better with *male* or *female*. The test encourages participants to respond as quickly as possible, ensuring that automatic reactions are measured rather than deliberate, calculated responses (Greenwald et al., 1998). Findings from IAT-based studies suggest that individuals may hold gendered associations (e.g., men being associated with leadership) even when they explicitly endorse egalitarian beliefs (Alzahrani et al., 2022). However, it is important to distinguish between the existence of implicit bias and its functional consequences. In some contexts, categorization may serve cognitive efficiency or threat assessment rather than prejudice.

Male biases for inanimate objects

Implicit gender biases extend beyond perceptions of people and are evident in responses to non-human stimuli. Pareidolia—the tendency to perceive faces in inanimate objects—has been shown to elicit systematic gender attributions in the absence of explicit cues (Wardle et al., 2022). In behavioral studies of face pareidolia, participants frequently assigned age, emotional expression, and gender to illusory faces, with a consistent tendency to perceive these faces as male rather than female despite the absence of semantic or visual indicators of gender (Wardle et al., 2022). These findings suggest the presence of a default cognitive bias in which ambiguous facial configurations are more likely to be categorized as male.

Subsequent research extended these findings to developmental populations. Wardle and colleagues (2023) examined gender attribution in illusory faces among both adults and children and found that children,

even prior to full maturation of facial gender recognition abilities, also tended to assign male gender to perceived faces regardless of their own sex. This pattern indicates that the association between face perception and masculine gender attribution emerges early in development and is likely shaped by broader sociocultural influences rather than perceptual expertise alone (Wardle et al., 2023).

Gender and aggression

Previous research has documented average sex differences in physical aggression, with males exhibiting higher levels than females across many populations (Geniole et al., 2020; Österman & Björkqvist, 2018; Baugher et al., 2015; Im et al., 2018). Because the present study focuses on perceptions of threat and aggression, the literature reviewed emphasizes physical forms of aggression rather than relational or indirect aggression. Neurophysiological and self-report evidence suggests that males, on average, demonstrate stronger aggressive responses to anger-inducing stimuli than females (Im et al., 2018). In experimental settings, males have shown heightened activation in brain regions associated with aggression regulation, particularly the right ventrolateral frontal cortex, when exposed to provoking stimuli (Im et al., 2018).

These sex differences have been attributed to both environmental and biological factors. From a socialization perspective, men are often subject to cultural expectations emphasizing dominance, strength, and assertiveness, which may increase the likelihood of aggressive behavior and contribute to self-fulfilling prophecies when such traits are socially reinforced (Baugher et al., 2015; Loeb et al., 2015). From a biological standpoint, neuroendocrine research has identified associations between testosterone levels and aggression, with testosterone-related activation of the amygdala and reduced emotional inhibition observed more frequently in males (Geniole et al., 2020; Österman & Björkqvist, 2018). Importantly, these findings reflect population-level trends rather than deterministic patterns and do not imply that aggression is inherent to all males or absent in females.

Research Question and Hypothesis

The present study explores how gender is perceived and assigned within haunted attractions when perform-

ers' identities are intentionally obscured. Specifically, the study addresses the following research questions: (1) How do customers and haunted attraction workers describe gender assumptions when scare actors' gender identities are unclear? (2) What patterns, if any, emerge regarding gendered role assignments within haunted attractions? and (3) How do participants interpret the relationship between gender, aggression, and scare actor roles?

Two hypotheses were investigated on an exploratory basis rather than as confirmatory claims. First, it was hypothesized that customers would be more likely to assume a scare actor was male when gender cues were absent. Second, it was hypothesized that such assumptions would be linked to cultural associations between masculinity and aggression.

Method

Participants

This study used two separate groups of participants. The first group consisted of 46 individuals from various sources—Reddit, university classrooms of multiple departments, Instagram, and Facebook. Of these, 34 (73.9%) of these participants were between the ages of 18-24, 6 (13%) were 25-34, 3 (6.5%) were 35-44, 1 (2.2%) was 45-54, 1 (2.2%) was 55-64, and 1 (2.2%) was 65+. Then, 10 (21.7%) of the participants were male, 30 (65.2%) were female, 4 (8.7%) were nonbinary, 1 (2.2%) was transmasculine nonbinary, and 1 (2.2%) did not identify with any of the previous options. Of these, 42 (91.3%) of the participants were White/Caucasian, 3 (6.5%) were Hispanic/Latino, and 1 (2.2%) preferred not to answer. For these participants, a voluntary survey was posted to the aforementioned social media sites or sent to them through email by their university professors. The survey consisted of a short vignette of a scenario where the participant is going through a haunted house. They then answered a short series of questions about their reactions and assumptions throughout the experience.

The second group of participants consisted of 22 haunted house staff members who have worked in any position in a haunted attraction (e.g., scare actor, cashier, or technician). Of these, 10 (45.5%) of these participants were between the ages of 18-24, 4 (18.2%) were 25-34, 2 (9.1%) were 35-44, 1 (4.5%) was 45-54, and 5 (22.7%) were 55-64. In the group, 7 (31.8%) of the participants

were male, 13 (59.1%) were female, 1 (4.5%) was transgender, and 1 (4.5%) was nonbinary. Of these, 19 (86.4%) of the participants were White/Caucasian, 1 (4.5%) was Hispanic/Latino, and 2 (9.1%) identified as two or more races. Only 2 (9.1%) of the participants worked as scare actors in Tennessee, but 1 (4.5%) worked in California, 6 (27.3%) worked in Illinois, 2 (9.1%) worked in Pennsylvania, 2 (9.1%) worked in Iowa, 2 (9.1%) worked in Indiana, 1 (4.5%) worked in Ohio, 2 (9.1%) worked in Massachusetts, 2 (9.1%) worked in Texas, 1 (4.5%) worked in multiple states, and 1 (4.5%) chose not to answer. The actors were recruited for voluntary inclusion in the study from Reddit, haunted house-oriented Facebook groups, and haunted house attractions located in East Tennessee. These participants answered a series of interview questions to give a thorough understanding of their experiences.

It is essential to distinguish clearly between these two groups, as they served different methodological purposes. The survey participants provided hypothetical perceptions based on an imagined scenario, whereas the interview participants provided retrospective accounts of lived experience within haunted attractions. The relatively small sample sizes, non-random recruitment, and demographic homogeneity (particularly the predominance of White participants) limit the generalizability of the findings.

Measures

The first part of the survey consisted of a short vignette asking the participants to imagine themselves in a haunted house and encountering a hidden aggressor. The second part of the survey asked questions about how the participants felt and what they imagined while reading the vignette. In particular, the participants were asked to describe how they imagined the hidden aggressor, providing evidence for whether people will assume a hidden assailant is male, female, or something else. The final part asked demographic questions such as age and gender.

The initial portion of the interview collected demographic information, including participants' age and gender. Subsequently, participants were asked about their experiences working in a haunted house. A separate section was administered exclusively to haunted house actors, reflecting the study's focus on customer-actor interactions. In this section, actors were asked to describe their experiences, including whether they had

been misgendered by customers. These responses contributed evidence supporting the claim that customers are likely to assume an actor is male when gender cues are ambiguous.

Survey responses and interview transcripts were analyzed using qualitative content analysis to identify recurring themes. While this approach allows for depth of interpretation, it also introduces subjectivity, particularly given the researcher's positionality within the haunted attraction industry. Efforts were made to ground interpretations in direct participant quotations and to acknowledge contradictory or inconclusive findings. The assessment also considered demographic variables (e.g., gender or age) that may have influenced participants' answers.

Procedures

Both the survey and interview protocols received Institutional Review Board (IRB) approval prior to administration to voluntary participants. Informed consent was obtained from all participants before participation, with separate consent forms provided for the survey and the interview. These forms outlined the purpose of the study, assured participants of their anonymity, and emphasized their right to withdraw at any time without penalty.

Following data collection, participants were provided with a debriefing form, with separate versions for the survey and interview, explaining how their responses would be used in the research. The debriefing materials also included additional resources on implicit bias, enabling participants to better understand potential influences on their responses and the relevance of these biases to the study. All data were stored on a password-protected computer to ensure confidentiality and security.

Results

Gendered scare actor roles

Interview participants frequently reported that male scare actors were more likely to be assigned roles perceived as aggressive, physically imposing, or leadership-oriented while female scare actors were more often assigned roles perceived as neater, submissive, or victim-oriented. Participant 1 stated, "Male actors are more likely to be leads of their attraction." Participant 9 stated, "More aggressive roles would go to the male volunteers." Participant 19 stated, "Guys usually get nastier looking

roles like pigs and clowns, [and] girls usually get roles like nurses and dolls.” When asked about the characters that male scare actors are given, interviewees stated that the most common characters are individuals with chainsaws or other weapons, characters that interact with the customers and perform “in-your-face” haunts, characters that are known as the “face” of the attraction, butchers, doctors, pigs, swamp monsters, doctors, zombies, and the undertaker. Commonly reported roles for women in the industry included maids, fortune tellers, victims, ghosts, witches, cat ladies, patients, and widows.

It is important to note that these reports reflect participant perceptions rather than systematically documented assignment practices. Moreover, whether such assignments constitute “favoritism” is ambiguous, as aggressive roles may involve greater physical risk, endurance demands, or exposure to customer misconduct.

Scare actor recognizability

When the interviewed scare actors described their transformation into the character they perform as, most of them stated that they look unrecognizable by even those who know them best after costuming and makeup. Participant 3 stated, “I have had friends who have gone through [the attraction] and didn’t realize it was me. I have a routine I go through to get into character, and when I get into character, I am a whole different person that what I normally look and act like.” Participant 4 stated, “Neither my mother nor my father recognized me. With the wig, makeup, fake teeth, and contacts, there’s literally no feature that resembles me.”

Multiple participants of the interview portion of the study reported that the haunted attraction where they worked used hidden locations for a select few of their scare actors. Participant 1 stated, “Many actors hide behind walls or cages and jump out. In other attractions, they hide under beds or tables and grab the guests’ ankles.” Participant 19 stated, “We have some [scare actors] that just perform a sound or throw an arm out, and we have some that completely emerge from their hiding place.”

Misgendering of scare actors

Instances of misgendering were reported across all gender identities. Although female scare actors were more frequently misgendered as male (9) than vice versa (4), the total number of reported incidents (13) was small. Misgendering often occurred in contexts

involving heavy costuming, darkness, hidden locations, or roles traditionally associated with a particular gender. These findings suggest that perceptual ambiguity, rather than explicit bias, may play a significant role in gender misattribution. Participant 15 stated, “Once, a woman was running in terror and plowed accidentally into our masked janitor (a female actor in a male mask and coveralls). I don’t know if she caught her fall and accidentally felt the actor or if she just was responding to meeting with a softer obstacle than anticipated, but she continues screaming and running and exclaims, ‘He got breasts!’” Participant 21 stated, “We have a [female] clown whose makeup is very vintage but includes the illusion of a possible beard, and there have been many instances where she was referred to as a man/*he*.” Participant 7 stated, “I’ve been called a man before. I don’t really care since I’m in character.” Participant 14 stated, “My friend has been misgendered (called *she/her*) when he was acting. A customer was trying to hit on him thinking that he was a female.” Participant 18 stated, “I had long hair, so they thought I was a girl. They said something like, ‘That girl scared me!’”

The problem of misgendering also occurred with scare actors who identified as nonbinary. Participant 15 stated, “A character [played by a non-binary, female-at-birth individual] pops out of a cadaver. They have a shaved head and wear a flesh-colored, airbrushed morph suit with blood and viscera. People often refer to the actor as ‘that little boy.’ [Assigned female at birth] actors of a certain height in masks and roles traditionally given to men are quite often misgendered.”

When interviewees were asked about why they think scare actors get misgendered by customers, many participants attributed the problem to the darkness of the attraction, the heavy makeup and costuming of actors, the role an actor is playing, or how loud and disorienting the attraction is. Participant 21 stated, “Depending on the costume, it’s hard to tell gender.” Participant 4 even attributed the issue to internalized misogyny, stating, “[The customers] don’t want to think a girl scared them. In their mind, it was a big, tall, scary man.”

Some participants reported that scare actors perceived as female were more likely to be flirted with or sexualized, whereas those perceived as male were treated with greater deference. Participant 14 stated, “My friend has been misgendered (called *she/her*) when he was acting. A customer was trying to hit on him thinking that he was a female.” Participant 14 stated,

“I appear female, so they see female. One time, I was stalking a guy, and he said, ‘Oh, this hot chick is following me.’” Participant 3 stated, “I’m a short female, but I have a deep, drill sergeant-like voice. It catches customers off guard, and I tend to hear ‘yessir’ often.” Participant 15 stated, “Once, a woman was running in terror and plowed accidentally into our masked janitor (a female actor in a male mask and coveralls) ... While I was listening, I heard, ‘SORRY, SIR! I DIDN’T MEAN TO TOUCH YOU! PLEASE DON’T KILL ME!’”

These findings require careful interpretation. Sexualization may be experienced as objectification or harassment, but some individuals may interpret it as a form of positive attention. The data does not allow for definitive conclusions regarding whether such behaviors reflect preference, prejudice, or broader cultural norms surrounding gendered interaction.

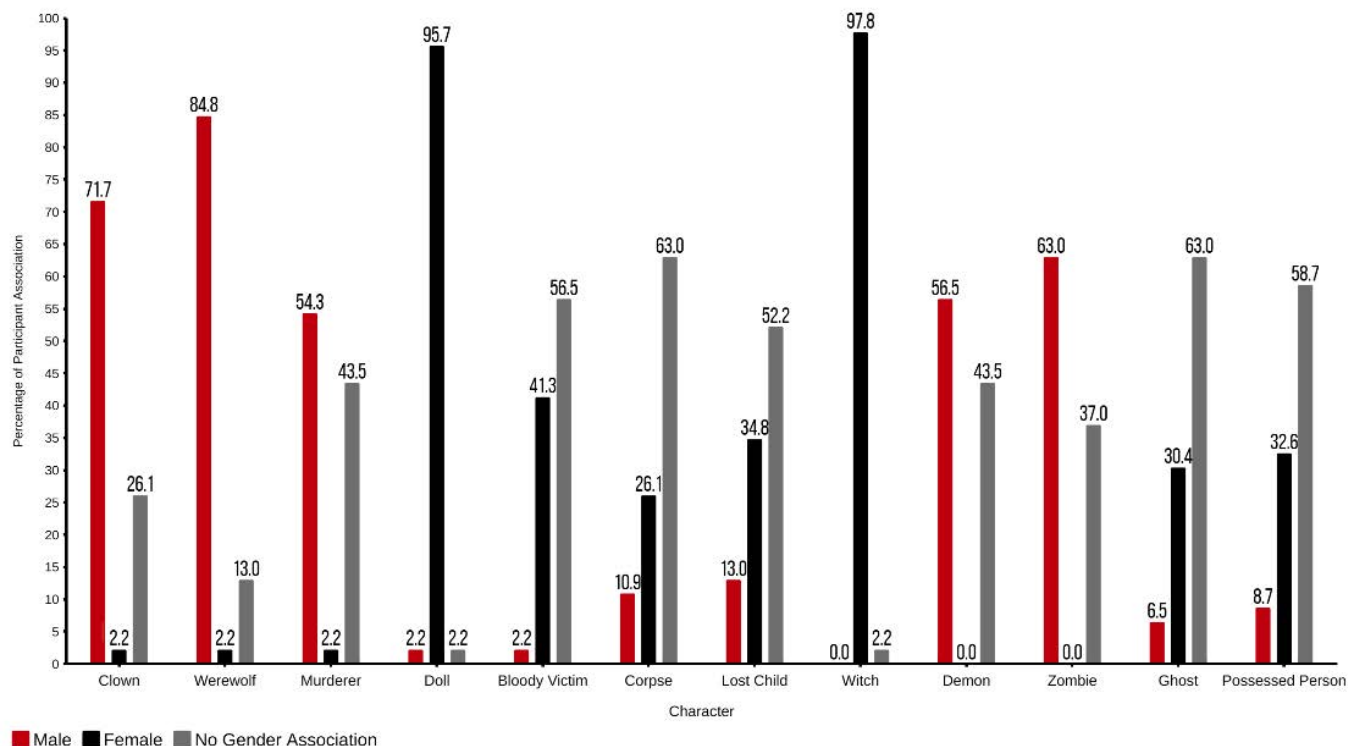
Horror character gender associations

When participants of the survey were asked to associate various horror/haunted attraction characters with a gender identity (i.e., male, female, or no gender association), most of the participants assigned male to clown,

werewolf, murderer, demon, and zombie. Participant 45 stated, “I associate werewolves with men because they’re often portrayed that way in the media.” Most participants assigned female to doll and witch. Participant 20 stated, “A witch and doll are women because those are traditionally women’s roles.” Most participants did not associate male or female to bloody victim, corpse, lost child, ghost, or possessed person, but the second highest association for each of these characters was female. Participant 12 stated, “There is a lot to be said about the fact that the roles more associated with women tend to have some form of victimhood or helplessness baked-in (a ghost has to have died, the possessed person is helpless before they’re possessed, etc.)” When eliminating the “no gender association” option from the data, most participants associated the more repulsive and/or more aggressive roles with male and associated the neater, more submissive roles with female.

When participants were asked why they felt they associated certain characters with certain gender identities, most of them stated that they were likely influenced by various forms of media and societal stereotypes. Participant 9 stated, “I feel that my answers reflect what I

Figure 1: Haunted Attraction Character Gender Association



have seen most often in everyday life as well as media portrayals of these things. I find characters do not often change gender whether in a scary movie, haunted house, or horror game.” Participant 14 stated, “Popular media tends to place males in the role of physical aggressors and females in the role of victims.” Among the other explanations were true crime, news, social media, television shows, American gender roles, and books.

Vignette responses

Exactly half (23) of the survey participants reported picturing a male or masculine individual as the aggressor in the vignette, indicating no clear majority tendency. Participant 21 stated, “I pictured a man as the aggressor because, generally, men are seen more in that light. In my mind, if I’m given a scenario and someone is grabbing me without permission, I think of a white man.” Participant 20 stated, “Unless described specifically otherwise, aggressors in my head are automatically male.”

Connection to hypotheses

The findings of this study do not provide sufficient empirical support for the proposed hypotheses that haunted attraction customers will (1) assume a scare actor is male and/or use *he/him* pronouns and (2) assume a scare actor is male because aggressors are typically male. Although some patterns consistent with these hypotheses emerged in participant responses, the overall evidence was inconclusive. The limited sample sizes, qualitative nature of the data, and reliance on self-reported perceptions restrict the strength of inferences that can be drawn. As such, the results should be interpreted as exploratory rather than confirmatory and do not allow for definitive conclusions regarding the relationship between gender attribution and perceptions of aggression in haunted attraction settings.

Discussion

The findings of this study do not provide sufficient empirical support for the original hypotheses. Attempts to draw strong conclusions would risk overinterpretation and selective emphasis on supportive evidence. The limited sample size and qualitative design constrain the strength of any claims regarding gender bias or causal mechanisms.

A notable conceptual tension emerges in the interpretation of implicit gender bias. The claim that men

Table 1: Themes Found in Participant Responses

Theme:	Number and Percentage of Participants Who Included Theme:	Examples:
Male scare actors are typically given more repulsive and/or more aggressive characters, and they are often given leadership roles	11 (50%)	Participant 9 stated, “More aggressive roles would go to the male volunteers.”
Female scare actors are typically given neater, more submissive roles	12 (54.5%)	Participant 19 stated, “Girls usually get roles like nurses and dolls.”
Scare actors are often unrecognizable after makeup and costuming	22 (100%)	Participant 4 stated, “Neither my mother nor my father recognized me. With the wig, makeup, fake teeth, and contacts, there’s literally no feature that resembles me.”
Many haunted attractions utilize hidden locations to scare customers	22 (100%)	Participant 1 stated, “Many actors hide behind walls or cages and jump out. In other attractions, they hide under beds or tables and grab the guests’ ankles.”
Scare actors of all gender identities are often misgendered due to makeup and costuming, darkness, the use of hidden locations, the disorienting nature of the attraction, or the scare actor’s role	10 (45.5%)	Participant 21 stated, “We have a [female] clown whose makeup is very vintage but includes the illusion of a possible beard, and there have been many instances where she was referred to as a man/he.”
Most survey participants assigned male to clown, werewolf, murderer, demon, and zombie	Clown: 33 (71.7%) Werewolf: 39 (84.8%) Murderer: 25 (54.3%) Demon: 26 (56.5%) Zombie: 29 (63%)	Participant 45 stated, “I associate werewolves with men because they’re often portrayed that way in the media.”
Most survey participants assigned female to doll and witch	Doll: 44 (95.7%) Witch: 45 (97.8%)	Participant 20 stated, “A witch and doll are women because those are traditionally women’s roles.”
Most survey participants did not associate male or female to bloody victim, corpse, lost child, ghost, or possessed person, but the second highest association for each of these characters was female.	Bloody victim: No gender association - 26 (56.5%); female - 19 (41.3%) Corpse: No gender association - 29 (63%); female - 12 (26.1%) Lost child: No gender association - 24 (52.2%); female - 16 (34.8%) Ghost: No gender association - 29 (63%); female - 14 (30.4%) Possessed person: No gender association - 27 (58.7%); female - 15 (32.6%)	Participant 12 stated, “There is a lot to be said about the fact that the roles more associated with women tend to have some form of victimhood or helplessness baked-in (a ghost has to have died, the possessed person is helpless before they’re possessed, etc.)”
Most survey participants stated their answers were likely influenced by various forms of media and societal stereotypes	34 (73.9%)	Participant 14 stated, “Popular media tends to place males in the role of physical aggressors and females in the role of victims.”
Half of the survey participants pictured the aggressor in the vignette as a male or masculine individual	23 (50%)	Participant 21 stated, “I pictured a man as the aggressor because generally men are seen more in that light. In my mind if I’m described a scenario and someone is grabbing me without permission, I think of a white man.”

are both “favored” and assigned aggressive roles may be internally inconsistent, as aggressive roles are not inherently advantageous and may involve increased risk. Furthermore, recognizing average sex differences in aggression does not necessarily constitute bias, nor does it imply that gender recognition serves no functional purpose. In threatening or ambiguous situations,

individuals may rely on heuristic categorization as a means of rapid threat assessment.

Rather than confirming that haunted attraction customers systematically assume scare actors are male, the results of the study suggest that customers often assign gender in general, even when cues are absent. This tendency aligns with previous research on pareidolia and gender attribution (Wardle et al., 2022; Wardle et al., 2023). The findings raise important questions about how ambiguity, media influence, and occupational norms interact to shape perception, rather than providing definitive answers.

Limitations

First, the research examines a highly specialized and niche context—the haunted attraction industry—which limits the number of individuals with direct experience relevant to the research questions. As a result, only a subset of interview participants could provide responses that directly addressed the proposed hypotheses, necessitating greater reliance on indirectly related qualitative data. This constraint limits the strength of inferences that can be drawn from the findings.

Second, both the survey and interview participants were recruited through social media platforms without a formal vetting or verification process. Consequently, it is not possible to independently confirm the accuracy of participants' self-reported information or to verify that all interviewees had genuine experience working in haunted attractions. Although responses that were clearly invalid were excluded from analysis (e.g., one interview response consisting entirely of irrelevant answers), the potential for inaccurate or unserious participation remains a limitation of the study.

Third, the interview component relied on participants' retrospective accounts of their experiences working in haunted attractions. Depending on the amount of time that had elapsed since their employment, participants' recollections may have been affected by memory distortion or selective recall. Similarly, survey participants were asked to imagine a hypothetical scenario involving a hidden aggressor in a haunted house. Because these responses were based on imagined rather than lived experiences, self-reported perceptions may not accurately reflect how participants would respond in an actual haunted attraction setting.

Finally, the small sample sizes for both the survey and interview, as well as the limited demographic diversity of participants, restrict the external validity of the findings. The results may not be representative of the broader U.S. population or of haunted attraction customers and workers more generally. Accordingly, the generalizability of the study's conclusions remains limited, and the findings should be interpreted as exploratory rather than definitive.

Future Directions

Future research should build on the exploratory findings of this study by employing larger, more diverse samples and more rigorous recruitment and verification procedures to enhance external validity. Studies that directly observe customer behavior in haunted attractions, rather than relying solely on retrospective reports or hypothetical scenarios, would provide stronger evidence regarding gender attribution and misgendering in real-world contexts. Experimental designs that systematically manipulate gender cues such as voice, body shape, role type, or costuming could help clarify which specific factors most strongly influence gender assumptions.

Additionally, future research should further examine the distinction between implicit gender bias, functional threat assessment, and media-driven stereotypes to determine whether gender attribution in haunted attractions reflects prejudice, cognitive heuristics, or occupational norms. Finally, investigating how factors such as race, body size, vocal pitch, and character archetype intersect with gender perception would provide a more nuanced understanding of identity attribution in immersive fear-based environments.

Conclusion

Due to methodological limitations, the results of this study are not sufficient to support the proposed hypotheses. However, the findings contribute to an emerging discussion about gender perception in immersive and ambiguous environments. Future research should employ larger, more diverse samples, experimental manipulation of gender cues, and direct behavioral observation to better understand how and why gender assumptions occur in haunted attractions. Clarifying the

distinction between adaptive categorization, cultural stereotype, and implicit bias will be essential for advancing this line of inquiry.

References

- Alzahrani, F., Al-Mansour, K., Alarifi, G., Alyahya, S., AlMehaizie, N., & Almoaibed, H. (2022). Estimating implicit and explicit gender leadership bias among primary healthcare professionals in Saudi Arabia. *International Journal of Environmental Research and Public Health*, *19*(23), 15871. <https://doi.org/10.3390/ijerph192315871>
- Baughner, A., & Gazmararian, J. (2015, April). Masculine gender role stress and violence: A literature review and future directions. *Aggression and Violent Behavior*, *24*, 107–112. <https://doi.org/10.1016/j.avb.2015.04.002>
- Geniole, S. N., Bird, B. M., McVittie, J. S., Purcell, R. B., Archer, J., & Carré, J. M. (2020). Is testosterone linked to human aggression? A meta-analytic examination of the relationship between baseline, dynamic, and manipulated testosterone on human aggression. *Hormones and Behavior*, *123*, Article 104644. <https://doi.org/10.1016/j.yhbeh.2019.104644>
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480. <https://doi.org/10.1037/0022-3514.74.6.1464>
- Im, S., Jin, G., Jeong, J., Yeom, J., Jekal, J., Lee, S. I., Cho, J. A., Lee, S., Lee, Y., Kim, D. H., Bae, M., Heo, J., Moon, C., & Lee, C. H. (2018). Gender differences in aggression-related responses on EEG and ECG. *Experimental Neurobiology*, *27*(6), 526–538. <https://doi.org/10.5607/en.2018.27.6.526>
- Loeb, E., Hessel, E. T., & Allen, J. (2015). The self-fulfilling prophecy of adolescent social expectations. *International Journal of Behavioral Development*, *40*(6), 555–564. <https://doi.org/10.1177/0165025415618274>
- Österman, K., & Björkqvist, K. (2018). Sex differences in aggression. In J. Ireland, P. Birch, & C. Ireland (Eds.), *The Routledge international handbook of human aggression: Current issues and perspectives* (pp. 19–30). Routledge. <https://doi.org/10.4324/9781315618777-2>
- Pritlove, C., Parsons, J. A., Juando-Prats, C., & Ala-leppilampi, K. (2019). The good, the bad, and the ugly of implicit bias. *The Lancet*, *393*(10171), 502–504. [https://doi.org/10.1016/S0140-6736\(18\)32267-0](https://doi.org/10.1016/S0140-6736(18)32267-0)
- Shuck, V., Adams Salmela, J., Prinster, M., & Geisler, C. (2024). Self-reflection interventions for implicit gender bias reduction: Scoping the literature for a conceptual way forward. *Journal of Human Behavior in the Social Environment*, *34*(6), 815–838. <https://doi.org/10.1080/10911359.2023.2212014>
- Soloski, A. (2021, October 26). When “boo!” is only the beginning. *The New York Times*. <https://www.nytimes.com/2021/10/26/arts/haunted-house-actors-halloween.html>
- Wardle, S. G., Ewing, L., Malcolm, G. L., Paranjape, S., & Baker, C. I. (2023). Children perceive illusory faces in objects as male more often than female. *Cognition*, *235*, 105398. <https://doi.org/10.1016/j.cognition.2023.105398>
- Wardle, S. G., Paranjape, S., Taubert, J., & Baker, C. I. (2022). Illusory faces are more likely to be perceived as male than female. *Proceedings of the National Academy of Sciences of the United States of America*, *119*(5), e2117413119. <https://doi.org/10.1073/pnas.2117413119>