Review

Recommendation

- ☐ Strong Accept: I would argue strongly for accepting this paper; 5.0
- ☑ Between possibly accept and strong accept; 4.5
- ☐ Possibly Accept: I would argue for accepting this paper; 4.0
- ☐ Between neutral and possibly accept; 3.5
- ☐ Neutral: I am unable to argue for accepting or rejecting this paper; 3.0
- ☐ Between possibly reject and neutral; 2.5
- ☐ Possibly Reject: The submission is weak and probably shouldn't be accepted, but there is some chance it should get in; 2.0
- ☐ Between reject and possibly reject; 1.5
- ☐ Reject: I would argue for rejecting this paper; 1.0

Confidence

Provide your expertise in the topic area of this paper.

- ☐ Expert
- ☐ Knowledgeable
- ☐ Passing Knowledge
- ☑ No Knowledge

Synthesis

This paper provides guidelines and initial insights into how companions in VR should be designed for children. It offers a glimpse into how different character types affect children's social-emotional perception. One finding was that characters should move more naturally. For instance, there should be a difference in how a giraffe moves compared to a human. The study found it especially important for human characters to have a realistic walking style to be accepted. The research also showed that children had strong emotional reactions towards the VR characters. Moreover, the type of character is significant when aiming to trigger a certain kind of emotion. Therefore, animal characters often provoke more positive responses.

The researchers have done a within-subjects design using a mixed-method approach. First, the children completed a pre-test questionnaire that covered topics like emotional and physical distress levels. They then entered the VR space, where they encountered three characters, each displaying different levels of realism. The researchers asked the children about their subjective perceptions of the characters. After exiting the VR application, emotional and physical distress levels were measured again. The researchers also sought feedback on the prominence and design of the characters.

Young children rapidly develop meaningful social-emotional relationships with characters. The younger generation can be influenced towards improved academics and social skills through these characters. While children are often exposed to characters through television, VR technology is now widely accessible to everybody. Studies have shown that younger generations shows more intense reactions towards VR characters compared to those on television. However, there is currently a lack of research on the specific design characteristics of VR characters for children and how different design features trigger various effects. This paper was developed in response to this gap in research, given its implications for the emotional and physical safety of children.

The experiment was conducted using a Muppet, a child, and a giraffe character. Overall, the children expressed a more negative response towards the child and Muppet than towards the giraffe. Significantly, a larger number of children described the child character in a negative light compared to the giraffe. The study also explored whether varying degrees of perceptual realism affected social-emotional perception, but this correlation was not significant. Notably, the study found that children prioritized character movement over visual appearance. Finally, children exhibited less emotional distress after engaging with the characters.

Critics

This paper is of utter importance given the rapidly growing VR market and the insufficient knowledge about its impact on young children. Therefore, research would like this paper, because it provides initial guidelines for designers creating applications for children, in the VR space.

This research is significant because companions can profoundly influence people, especially during childhood. They could enhance our social skills, academic careers, and much more (Bailey & Schloss, 2023, p. 5). Hence, it's crucial to understand how these companions work and what properties trigger certain effects, especially in the new VR environment.

Moreover, this paper offers a detailed description of the experimental procedure. Thanks to the good explanations and provided images, the experiment could be easily replicated. Additionally, the researchers have included their questions, such as "What do you remember about the characters?" (Bailey & Schloss, 2023), facilitating future replication attempts.

One issue with this paper is the prior familiarity some children had with the Muppet character due to its appearances on Sesame Street. This familiarity might have influenced their pre-existing connection and opinions about the character, as the paper shows positive and negative opinions about the character before its first VR appearance ("Kinda cool. He is in a TV show" (P1) and "It's cool to see because I watch Sesame Street a lot.", "Dumb. Only a character on Sesame Street and that's baby stuff" (Bailey & Schloss, 2023)).

Another minor critique is that the children were able to phase through the characters' bodies, which could have significantly altered their perception. Most children described this interaction negatively, yet this incident was not statistically represented in the paper ("being able to pass through the virtual bodies: "Nothing, can't even feel him" (referring to child character [P23]); "Can't feel it! Kinda creepy. Weird, amazed, realistic. Wow!" (Bailey & Schloss, 2023)).

The paper stated: "Analysis showed that there was a significant effect of character type on the number of children that used negative terms". However, this statement is not correct. The paper only compared each character against each other. Here, only one comparison was significant, indicating more children negatively described the child character compared to the giraffe ("There were signifcantly more children that negatively described the child character (n =10) compared to the girafe character (n = 4; b = - 2.24, z = -1.98, p < 0.05)." (Bailey & Schloss, 2023)). Therefore, the claim of a general significant effect could be proven wrong.

Comments to Committee

In conclusion, it can be said that the paper is overall enough. Yes, there are certain issues with the choice of the Muppet character. Here, I would recommend either not using 3D models of well-known characters or selecting children who are not familiar with them. Moreover, I would strongly advise the authors against using the term "significant" in the sentence "Analysis showed that there was a significant effect of character type on the number of children that used negative terms" (Bailey & Schloss, 2023), as the statistical data presented does not prove it.

Despite these issues, the paper tackles an extremely important topic with insufficient existing research. It describes initial design guidelines for VR characters aimed at young children. The paper provides insight into how movement and different types of characters can affect children's emotions. This research could assist designers in creating a more enjoyable VR experience for children. For the reasons stated above, I would accept the paper.

Bibliography

[1] Bailey, J. O., & Schloss, I. (2023, April). "Awesomely freaky!" The impact of type on children's social-emotional perceptions of virtual reality characters. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (pp. 1-10).
[2] Andrea Tartaro and Justine Cassell. 2008. Playing with virtual peers: Bootstrap- ping contingent discourse in children with autism.