

Sex Differences in User Acceptance of Avatars

Leo Versteeg and Peter H.M.P. Roelofsma

VUA University Amsterdam, Department of Social Sciences,
The Netherlands
p.h.m.p.roelofsma@vu.nl

Abstract. This presentation discusses some explorative observations on sex differences in user acceptance of Avatars. Elderly adults evaluated a male and a female avatar. Subjects were required to watch non verbal emotional and interactive expressions of these avatars. After the video the subjects were asked to which avatar they felt more connected and which avatar they would choose as their personal coach. Elderly men felt more connected to the woman coach and preferred the female coach and elderly women felt more connected to the male coach and preferred the male coach. The observations are discussed by differences in the perceived para-social relationship of the users with each of the avatars.

Keywords: Avatars, Sex differences, User acceptance, Non verbal emotional expression, Para-social Relations.

1 Introduction

The use of avatars is increasingly popular in ambient intelligence. Avatars are more and more introduced in a variety of ambient environments like, health and care, learning, work, and living. A crucial aspect in the success of the application of such technology is the level of user acceptance of the avatars. User acceptance is an important factor for sustained motivation in system use. Subjects may differ in their preference of avatar characteristics and such differences may lead to differences in system effectiveness. The field of human avatar interaction is an emerging research area and many issues and debates from dyadic human interaction research are relevant for human avatar interaction. One of these issues is the phenomenon of sex differences. Avatars may function as different cues for men and woman. In particular the perceived connectedness to these avatars may be different.

More specifically, when avatars are used as virtual coaches psychological factors may be at stake. Subjects may perceive coaching by same sex avatars as an ego threat. As a consequence they may prefer different sex type of virtual coaching. In addition, when living alone connectedness may be stronger to different sex coaching due to a contrast effect of adding difference to the environment. To explore this phenomenon field observations were made where elderly subjects watched digital coaches and answered questions concerning avatar connectedness and preference.

2 Method

60 elderly adults 30 males and 30 females with an age range of 65-79 were used in this field observation. The subjects were approached in the central hall of an elderly care

institution and at an elderly care happening. Subjects were invited to participate in the study and sit at a table where they watched the interactive virtual coaches on a laptop PC. The subjects were required to watch non verbal emotional expressions of these avatars. The expression were: neutral, approval, denial, scorning, thinking, laughing, encouragement. After the video the subjects were asked to which avatar they felt more connected, the female or the male coach (*Do you feel more connected to the male or female avatar?*). In addition they were asked which avatar they would choose as their personal coach if they had to select one of them as virtual coach. (*If you had to choose one avatar as your coach, would you chose the male or female avatar?*). The male and female coaches are presented in Figure 1.



Fig. 1. The male and female virtual coaches used in this study

3 Results

The majority of the elderly men, 26 out of 30 (87%) felt more connected to the female avatar. 24 (80%) choose the female avatar as their virtual coach over the male coach. This pattern is reversed in the elderly women group. The majority of elderly women 25 out of 30 (83%) felt more connected to the male avatar. 21 choose the male avatar as their coach (70%).

4 Discussion

The explorative observations provide discussion for sex differences in the acceptance of virtual coaches. It seems that men tend to prefer female virtual coaches and women tend to prefer male virtual coaches. The study provides discussion that this variation may be related to the level of connectedness to the coaches. This connectedness could be explained by subjects differences in perceived para-social relationships with the coaches. The results have important implications for AAL system design that implement virtual coaching for human interaction. More controlled studies are needed to further examine these important potential relationships.

References

1. Jin, S.A.: The effects of incorporating a virtual agent in a computer-aided test designed for stress management education: the mediating role of enjoyment. *Computers in Human Behavior* 26(3), 443–451 (2010)
2. Thorson, K.S., Rodgers, S.: Relationships between blogs as ewom and interactivity, perceived interactivity, and parasocial interaction. *Journal of Interactive Advertising* 6(2), 34–44 (2006)