(16) Gender Identification with an Anthropomorphic Computer Help Agent: A Social Presence Approach

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Abstract

When designining websites or other information environments, designers strive to match user preferences with the design features of a computer interface. Much of the tailoring of the structural features of content in online environments is based on matching user preferences with the structural and content features of the information. The implicit assumption is that a match between user and the computer source on key social variables can lead to positive outcomes. In fact, these tailoring techniques have been found to be quite effective in various domains, including health and consumer behavior.

As the concept of tailoring continues to grow, one of the approaches could be the use of tailored anthropomorphic computer agents that simulate social identification. Researchers studying human-computer interaction have examined the opportunities and challenges associated with the use of anthropomorphic computer agents. After reviewing the literature on animated interface agents, Dehn and Mulken (2000) suggest that the results are mixed in terms of knowing whether anthropomorphic agents are useful are not. In summarizing the state of the art of the findings they state that the usefulness of anthropomorphic interfaces depends on the attributes of the agent, task context, individual differences among users, and most important, the criterion variables used to judge the usefulness of the agent. Given the ambiguities in the current findings, in this study we focused on only one key attribute, namely the gender of the agent, and examined the effects of a match or mismatch between the gender of the respondent and the gender of an anthropomorphic computer agent.

Using items from a social presence measure (Biocca, Harms, & Burgoon, 2002) we tested the effects of the gender of the help agent on overall usefulness, on perceived warmth/friendliness of the agent, co-presence, attention and understanding. Agent's gender did not seem to have an effect on males. However, female respondents showed strong in-group support, by rating the female agent significantly higher than the male agent on various dimensions such as co-presence, attention, and understanding, but not on overall task performance. Female respondents also rated the female agent higher than an interface without agent cues. The implications of the results for agent design are examined.