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Exploratory Investigation into Influence of Negative Attitudes toward Robots on Human-Robot Interaction

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1. Introduction

Robots have been beginning to move from industrial fields such as factories, to offices, houses, and schools. Furthermore, a great deal of study has been performed recently on robots that feature functions for communicating with humans in daily life, (i.e., communication robots). This research has many applications such as entertainment, education, psychiatry, and so on (Dautenhahn et al., 2002; Druin & Hendler, 2000). On the other hand, some research has found that humans tend to either extremely positive or extremely negative attitudes toward novel communication technologies (Joinson, 2002). If communication robots can be regarded as a novel communication technology, there is the possibility that humans will have negative attitudes or emotions toward these robots, regardless of whether they are pet-types or humanoid robots. Thus, it should be carefully investigated on how humans are mentally affected by them.

Regarding the measurement of human mental images and impressions toward robots, there are plenty of published studies. Shibata et al. (2002; 2003; 2004) reported international research results on people’s subjective evaluations of a seal-type robot they developed, called Palo, in several countries including Japan, the U. K, Sweden, Italy, and Korea. Their results revealed that there were differences in subjective evaluations of the robot among genders and ages, and that nationality also affected the evaluation factors. Friedman et al. (2003) investigated people’s relationships with robotic pets by analyzing more than 6,000 postings in online discussion forums about one of the most advanced robotic pets currently on the retail market, Sony’s robotic dog AIBO. Furthermore, Kahn et al. (2004) examined preschool children’s reasoning about and behavioural interactions with AIBO. Their important suggestion is that people in general, and children in particular, may fall prey to accepting robotic pets without the moral responsibilities that real, reciprocal companionship and cooperation involves. In addition, Nomura et al. (2005b) reported the results of social research on visitors to an exhibition of communication robots, called “Robovie” (Ishiguro et al., 2001),
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8. References


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The range of potential applications for mobile robots is enormous. It includes agricultural robotics applications, routine material transport in factories, warehouses, office buildings and hospitals, indoor and outdoor security patrols, inventory verification, hazardous material handling, hazardous site cleanup, underwater applications, and numerous military applications. This book is the result of inspirations and contributions from many researchers worldwide. It presents a collection of wide range research results of robotics scientific community. Various aspects of current research in new robotics research areas and disciplines are explored and discussed. It is divided in three main parts covering different research areas: Humanoid Robots, Human-Robot Interaction, and Special Applications. We hope that you will find a lot of useful information in this book, which will help you in performing your research or fire your interests to start performing research in some of the cutting edge research fields mentioned in the book.

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