Effects of uncovering gaze target mismatch in human-robot joint visual attention on evaluation of understanding and impressions of robot

Takeshi Konno
Japan Advanced Institute of Science and Technology

Shoji Nagataki
Chukyo University, Nagoya City, Aichi Pref., Japan

Masayoshi Shibata
Kanazawa University

Takashi Hashimoto
Japan Advanced Institute of Science and Technology

Hideki Ohira
Nagoya University

Abstract: In joint visual attention, the robot should not only follow a human's gaze but also identify the gaze target of the human. We believe that mutual adjustment based on the individuality of the robot is a key to identify the gaze target of the human even if the human decides the target unilaterally. In the identification, mismatches of the gaze target are uncovered. In humans, the mismatches can be accepted as individuality , it is not the case for robots in which obedience to humans is expected. We examined the case of mismatches in gaze target, which could entail a change in the subjective evaluation of the robot. We found that when the mismatch became apparent, although the concordance rate of the gaze target was high, humans' evaluation of understanding of the gaze target by the robot tended to be worse. The impressions of ”friendly,” ”kind,” ”cute,” and ”funny” were reduced, while those of ”humanity” and ”complexity” tended to increase.