

Do Emotions Matter in the Ethics of Human-Robot Interaction? - Artificial Empathy and Companion Robots

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Abstract. In this position statement we shall argue that emotions are not directly relevant in the ethics of human-robot interaction, particularly in the context of robot care-givers and human care-receivers. Our argument is based on (1) current theories of emotion and (2) empirical findings on organizational emotion research in health care. We use a thought experiment to guide the reader through aspects of emotional empathy that support our conclusion. Our general argument is that what matters to care behavior is just the relevant behavior, not the source that drives the behavior. Our reflection will show that emotional deception may not directly impact the care-receiver (as often assumed in HRI) but more relevantly other care personnel.

1 Introduction

If we knew concretely what emotions were, we would have a better idea of how to design artificial systems that have them (or, we would be able to develop less prejudiced arguments to explain why artificial systems cannot or should not have them). Our best theories of emotions, however, are not concrete enough for this end and remain at a high level of abstraction.

Consider a key theory among the dimensional theories of emotion as an example: the two-factor theory of Schachter [10]. According to Schachter [10], feelings are caused by two independent components: physical activation and cognitive evaluation of this activation. These components then converge to form the perception of a “feeling”. According to this theory, the physiological activation of a person could be interpreted by this person as a result of the cognitive evaluation process, either as positive or as negative. Whether a particular physical sensation is considered to be pleasurable or painful depends entirely on the cognitive assessment.

This view is criticized by Zajonc [19]. He claims that humans can experience emotions without cognitive interpretation. Although this theory seems intuitive at first, it cannot be the full truth in its strict form, as it is hard to imagine any mental state, except for death, where no cognition whatsoever is present. Lazarus [5] for instance stresses that even strong emotions require a small amount of cognition because without it, there is no way that we can know why we are reacting. He advanced the view that cognitive ratings of a situation could be unconscious, but that these ratings are necessary for the formation of emotions.

We claim that any theory of (human) emotions will involve a physical and a behavioural component. Human emotions have a physical component in that they have biological correlates involving the limbic system and neurochemicals such as dopamine, noradrenaline, and

serotonin. Behavioral components of emotions include their assertion through facial expressions, bodily reactions, and vocalization.

In HRI research, it has become more and more evident that users should establish some kind of long-term emotional/social bonding towards a companion robot [16]. As defined by Dautenhahn and colleagues “a robot companion is a robot that (i) makes itself ‘useful’, i.e. is able to carry out a variety of tasks in order to assist humans, e.g. in a domestic home environment, and (ii) behaves socially, i.e. possesses social skills in order to be able to interact with people in a socially acceptable manner” [2]. However, it seems to us that, especially with respect to companion robots for older adults, the topics of emotion, artificial empathy, and questions of deception and ethics have become more prominent than the topic of usefulness [18]. For example, should we be ethically concerned about handing over elderly care to robots that “fake emotion”? Does this count as a form of deception? Could this harm older adults?

Such questions, however, can be misleading. Even if companion robots are considered to be beneficial to their users to the extent that the robots express and recognize emotions, behave according to social norms, and establish something like a care-taker/care-receiver interaction pattern, what matters to the success of building companion robots is their relevant behaviour, not the source of that behaviour. Hence, we argue that unless a theory of emotions is put forward on purely behavioral grounds, a theory of emotions is unnecessary for an ethics of human-robot interaction for companion robots for older adults.

2 Related Work

Ethical concerns related to companion robots for elderly care are gaining more and more attention (see e.g. [13] & [11]). Besides topics such as loss of privacy and reduction of care duties of humans, topics such as artificial emotions and deception are becoming more prominent. We agree with others that there is a pressing need to identify the likely effects of companion robots for the aging population before they become common place and that deception and artificial empathy are key topics to be addressed. Older adults that can no longer independently live at home without assistance need company, love, and attention. At the current stage of technological development companion robots are far from offering that in a human-like manner. However, a lot of research efforts are put in emotion recognition, interpretation, and expression. There are already care robots that can express simulated emotions based on a care-giver and care-receiver interaction paradigm, but their actual interaction and communication abilities are still very limited.

It has been argued that any benefits of companion robots for elderly care are consequences of deceiving older adults into thinking

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that they could establish a relationship towards the machine over time [13]. This concern is also mentioned by Turkle [15], who claims that it leaves an uncomfortable feeling to assume that in the future grandma and grandpa will say “I love you” to a robot which returns the same phrase. She also states that for the future development of such technology we need to think about the degree of “authenticity we require of our technology”. Wallach and Allen [17] also argue that the detection of human social cues and robot feedback with human-like cues are general forms of deception.

These lines of argument are red herrings. Consider the claim from Sharkey and Sharkey [11] that humans can be “all too ready to anthropomorphize machines and other objects and to imagine that they are capable of more than it is actually the case”. We agree that there are such circumstances, but the extent to which they should be of concern is not with respect to deception, but with respect to limitations of the capacities of the relevant robots. Humans can choose to act as though something was real even when they know it is not, as Zizek [20] notes: “I know very well that this is just an inanimate object, but none the less I act as if I believe that this is a living being”. If there are circumstances where it is rational to act in this manner (which we believe there are), then surely it can be rational to act as if something has emotions even when it does not. After all, we find it acceptable to mask our own emotions to achieve ulterior goals, such as avoiding hurting someone else’s feelings or keeping an emotional distance to them. In the next section we extend our line of argument through a thought experiment.

3 Thought Experiment

We proceed by considering the following kind of scenario. Suppose Eleanor is a senior at a nursing home being taken care of by Janice. Are Janice’s emotions relevant to an ethics of care with respect to Eleanor? Surely the answer to this question primarily involves Eleanor and her perception of her care.

Consider a situation in which Eleanor is unhappy about how she is being cared for. There are two plausible reasons for this. Either Janice’s care behavior towards Eleanor is unsatisfactory (e.g., Janice is too rough with Eleanor from Eleanor’s perspective), or it is satisfactory but there is something else about Janice that makes Eleanor unhappy. The latter case might come about because Janice, despite doing a satisfactory job, does not “actually care” about Eleanor. Should Eleanor find out about this, Janice’s negative emotions can work to defeat Eleanor’s happiness with respect to her care.

Now consider a situation in which Eleanor is happy about how she is being cared for. For this to happen it must be the case that Janice’s care behavior towards Eleanor is more or less satisfactory. Where that behavior is less satisfactory, Eleanor may be more forgiving by knowing (for argument’s sake) that Janice “actually cares” for her. It seems to us implausible, however, that good intentions and the “right” emotions can make up for any level of unsatisfactory care behavior.

4 Reflection on Emotions and Care

The general point is this. Considerations about emotional behavior, particularly with respect to care, dominates considerations about the sources of that behavior. The extent to which emotions matter is given by the extent to which a person’s positive perception of someone else’s care behavior can be defeated by knowledge of the emotional source of that behavior. We think conceding this much in our argument is already a lot. As humans we have learned that emotional

states tend to be correlated with behaviors. Of course, these correlations can be broken, as in cases where persons suppress their anger, or where persons are acting. And it is precisely because these correlations can be broken that we think considerations about emotions are unnecessary with respect to an ethics of human-robot interaction.

One might grant us that emotions are unnecessary for an ethics of care with respect to companion robots, but object that they could nevertheless be helpful in the development of such an ethics. We argue that emotions should not be considered in such an ethics. Emotions can get in the way of effective care behavior. For example, if a health professional has been emotionally compromised then they may be deemed unprofessional to engage in care behavior [4]. Emotions such as anger, fear, rage, irritation, etc., can be dangerous in the context of taking care of others. They are not only distracting, but can also lead to malicious behavior, particularly if those emotions are targeted towards the relevant subjects. In contrast, a robot care-taker will have few (if any) biases that could get in the way of providing the necessary care. Again, it is the behaviour that matters, not the source of the behaviour.

One might object that without emotions a robot care-taker would lack the appropriate wherewithal required for care behavior. After all, the “delicate” touch of a human tends to be so precisely because of the emotional state of the caregiver. This objection, however, concedes our point. What really matters is the “delicacy” of the care, not the emotional source of such care. We argue for this by taking into consideration the relegated role of emotions in health care practices.

In traditional Western medical settings care givers must align their personal experiences and emotional expressions to the organizational and occupational norms of appearing unemotional [3]. The degree of this emotional distance may vary across practitioners and organizations, but it is still a dominant strategy to keep emotional neutrality. And while there is a recent tendency to practice “feeling and showing empathy” in these professions, the adoption of this practice is not to make the care receiver feel better, but is adopted in the interest of the caregiver because emotional neutrality is very emotionally demanding [6].

More specifically, there are three main themes in organizational emotion literature: (1) regulated emotions, (2) the influence of detached emotions on the patient, and (3) cultural forms of negotiating feelings [8]. With respect to (1), care-givers experience an emotional dissonance between their individual emotional ownership and the organizational emotional ownership. For example, doctors after death-telling (and intense emotional labor of showing empathy but not feeling personal guilt) tend to leave relatives with nurses to offer additional emotional support [1]. In regards to (2), the expression of emotional neutrality of the care personnel (which is again hard emotional labor as mentioned above) can have a social influence on the care-receivers in a way that they also feel similarly “detached” to their conditions [14]. And with respect to (3), organizational culture research demonstrates that emotional performances in care settings are often implicit informal processes which are taught by observation in symbolic activities. In other words, there is an emotional socialization of health care providers [12].

If we take into account emotion management strategies and performances in the health care sector, it is easy to see that these professions are involved in emotional role-playing. From this perspective companion robots could have a significant advantage over humans in all three aspects above. Individuals who perform emotional labor may suffer from stress or burnout and may develop a concern of being “desensitized” to their patients [7]. We concede that, if robots do not take over any of the emotional labor, this aspect could become

an even bigger burden for care personnel. However, it seems like the aspect of emotional distance between the robot and the care-receiver might even have a positive aspect in terms of not perceiving the conditions as very concerning (if it is just a robot taking care of me it cannot be that critical). An open issue is how companion robots will affect the emotional socialization of care-givers. This aspect is hard to predict: Will robots serve as role model to be emotionally detach or will new strategies evolve how to regulate emotions? We think that research focused on these sorts of questions are more fruitful for an ethics of human-robot interaction than concerns about authenticity or deception.

5 Conclusion

To summarize, our suggestion is that the deceptive aspect of emotions is not crucial for an ethics of robot companions and care-takers in case of robot care-givers and human care-receivers. We thereby follow the conclusions of Sharkey and Sharkey [11], that considering robot companions as unethical because their effectiveness depends on deception oversimplifies the issue. If we can develop a system that effectively delivers what we deem to be appropriate care behavior, then the only source of objection - though one could hardly call it even that - would be our prejudices.

With respect to organizational emotional research in the care sector, artificial emotion recognition and expression will likely affect the other care personnel. The emotional burden may increase and emotion management and regulation may have to change. Thus, we want to encourage the HRI community to consider the impact of artificial empathy from a broader sociological perspective than just with a focus on deception of care-receivers. First empirical findings from fellow researchers also support our claim: Even a “simple delivery robot” impacts and changes the emotional and social labor in hospitals [9]. To our conviction the impact of robot care-givers on emotional labor of health practitioners is of bigger societal impact.

ACKNOWLEDGEMENTS

The research leading to these results has received funding from the European Community’s Seventh Framework Programme (FP7/2007-2013) under grant agreement No. 288146, Hobbitt and from the Austrian Science Foundation (FWF) under grant agreement T623-N23, V4HRC.

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