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'Please do not lean on the computer. It has feelings too.': The relationships transferred by humans to technology.

Jocelyn R. Harper
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**“PLEASE DO NOT LEAN ON THE COMPUTER.
IT HAS FEELINGS TOO.”: THE RELATIONSHIPS
TRANSFERRED BY HUMANS TO TECHNOLOGY.**

A thesis submitted in fulfilment of the requirements for the award
of the degree

DOCTOR OF PHILOSOPHY

from

University of Wollongong

by

Jocelyn R. Harper
BSc. Honours (Psychology).

School of Psychology
2007

Certification

I, Jocelyn Rae Harper, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Psychology, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other institutions.

Jocelyn R. Harper

1st November, 2007.

Please see print copy for (Penna, 2004)

“Please do not lean on the computer. It has feelings too.” A sign on a computer monitor in a work environment. (Penna, 2004).

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Abstract

This thesis explores technology and computer transference. Technology and computer transference refers to the understandings about people and animals projected onto technologies and computers. It describes a ‘felt’ sense of the object as an ‘Other’, as a social entity and agent. A methodology for examining transference was developed and trialled during a series of three studies to determine its frequency, nature and influence on the human-computer interaction, and level of technology acceptance and use. Study One trialled and tested the Transference Grid methodology, which was based on the Repertory Grid technique from Personal Construct Psychology. The Transference Grid elements comprised both people and technologies. Study Two extended the research by adding the individual difference measures to examine their influence on transference. These included measures of learning style (Index of Learning Style), occupational style (Self-Direct Search) and personality (NEO-FFI). In Study Two, transference was found to be common, with 90% and 96% transference rates. In Study Three, the measures of individual differences were included with the Technology Acceptance Model (TAM), in order to examine their influence on both transference and technology acceptance. Study Three confirmed that transference was common, with 84% and 94% of constructs being transferred. Analyses were conducted on the two TAM contexts, based on Microsoft Word and Kronos software packages. Comparison of the results of the TAM for Word and Kronos, revealed that individuals with high levels of Extraversion found Word easier to use, but had no influence when using Kronos. Word was also perceived as being more useful than Kronos. Participants’ attitudes to Word were more positive than to Kronos; they had more interest in exploring Word. No statistically significant difference between ‘low’ and ‘high’ technology transference scorers on the TAM Word

or Kronos variables were found, however, there were significant differences in technology transference levels for both computer experience and frequency of use. As well, there was a difference in the level of Extraversion for high transference scorers. In Studies One, Two and Three the Transference Grids were analysed using two-dimensional Multidimensional Scaling. These solutions' results revealed two consistent over-arching (super-construct) dimensions for the various patterns of inter-element clusters. Affect and Effort were interpreted as the two dimensions. Participants' perceptions about the nature of computer transference centred around four sets of themes, based on computers' heightened abilities and orderliness, their dominance, their lack of emotion, and their complexity and subsequent difficulty. Anthropomorphic questions revealed that computers were predominantly attributed masculine characteristics. This thesis found clear evidence for technology and computer transference, although it may occur at low levels of awareness and comfort. Computers were perceived as ambiguous and difficult, offering extended abilities as well as complexity. Affect and Effort were interpreted to be the MDS super-constructs that frame participants' perceptions of the people and technologies in their lives. In view of this result, two further axes were proposed: 'Engagement-Disengagement', and 'Opacity-Transparency'. These results offer an extension to the current models studying the human-technology interaction