Positive Emotions in IS

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Negative emotions have received considerable attention in the Information Systems (IS) community. Studies on phenomena like technostress and information anxiety are two prominent examples. Positive emotions, however, have received less attention. Since they differ significantly from negative emotions in influencing human behavior, it is deemed appropriate to examine their nature and related effects. This research follows a two-step approach. First, we identify the *types* of positive emotion that are prevalent in IS research and explain how they can be differentiated *conceptually*. Second, we propose measures for distinguishing different types of positive emotion on a *psychophysiological* level.

Moods are long-lasting responses in the expressive and behavioral systems that are not directly related to specific stimuli. **Attitudes** signify long-lasting beliefs or preferences towards a subject or an object. **Emotions** are short-lived responses in the expressive, physiological and behavioral systems related to a specific stimulus. They involve changes in the *expressive*, *physiological* and *behavioral* systems. Past research developed three different models for differentiating emotions: discrete, dimensional and appraisal models (Lazarus 1991; Scherer 2000). We apply these models as a lens for identifying types of positive emotions that are relevant to IS research. In an initial round, we therefore reviewed the MIS Quarterly issues of the years 1979-2014. According to our analysis, *enjoyment* (Van der Heijden 2004; Venkatesh 1999) and *excitement* (Beaudry and Pinsonneault 2010) are the most often studied positive emotions with regard to information systems (cf. table 1).

These types of happiness emotions differ in their arousal, valence, and uncertainty properties. Based on the literature, we expect excitement to be associated with lower levels of positive valence than enjoyment (H1). Furthermore, we expect excitement to be associated with higher levels of arousal than enjoyment (H2). Finally, whereas enjoyment involves certainty about the positive event, excitement is related to *prospective* positive outcomes (Beaudry and Pinsonneault 2010) and, therefore, involves higher degrees of uncertainty (H3). In relation to the first goal of our study, enjoyment and excitement appear to represent distinct types of positive emotion on a *conceptual* level. In relation to our second goal, we seek to establish this difference on a *psychophysiological* level. In order to distinguish enjoyment from excitement, we plan to conduct the measurement of electrodermal activity (EDA), and the use of facial electromyography (EMG) in a controlled **experiment**. Participants perform a search task on a computer. Before the task begins, they are confronted with a gamble. Participants are informed that prizes are real and will be paid out. The *enjoyment* group wins 5€ and is immediately informed about the prize. The *excitement* group also wins, but is informed that they will learn later whether they won 5€ or a voucher for a coffee shop. This is to assure that the stimulus (winning the gamble) is of positive valence for both groups. Furthermore it allows to experimentally manipulate the level of *uncertainty*. EMG will be used to record zygomaticus major muscle activity as an indicator of positive valenced emotion. EDA recording over the sweat glands of the palm will be used as a measure of arousal. We see our hypotheses supported if EMG data indicates lower levels of zygomaticus major activity for the *excitement* condition (H1), and skin conductance responses (SCR) show higher amplitudes for the excitement condition (H2). In accordance with Wilson et al. (2005) we expect that the higher uncertainty of excitement translates into a prolonged duration of the emotion. Hence, we see H3 as supported, if the SCRs for the excitement condition persist over a longer time interval than for the enjoyment condition.

Table 1. Positive affect in MISQ (excerpt)

Period	Enjoyment or excitement	Other positive affect
1979-1989	-	1
1990-1999	1	2
2000-2009	4	4
2010-now	6	3
Total # of articles dealing with positive affect = 21		

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