

Preference for Combining or Separating Events in Human and Avatar Decisions

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Abstract. According to the Renewable Resources Model people have limited emotional resource capacity for making decisions. As a result people have a general preference for spreading outcome events over time (Linville and Fisher (1991). This study examines whether the introduction of avatars will alleviate limited emotional resources and result in increased preference for combining events. This hypothesis was tested using a 2x2 factorial between subjects design which systematically manipulated the decision outcome (gains versus losses) and avatar use (avatar mediated versus non avatar mediated decisions). Preferences for combining or separating positive and negative emotional impactful events were measured using choice problems of Linville and Fischer (1991). Results show a replication of Linville and Fisher (1991) but only in the non avatar condition. In contrast, in the avatar condition a significant increase of preference for combining events was observed as predicted. The results give support for the Renewable Resource Model.

Keywords: Avatar Mediated Communication, Limited resource model, Elderly Persons, Human decision Making, Time preference, Spreading of outcomes.

1 Introduction

Making choices and getting specific types and amounts of information can stress people out. Often choices are difficult to make, because of people's limited resource capacity. Especially choices or information that has a potential negative influence on individuals will cost energy and stress. For example, in the case of feedback, people tend to avoid negative feedback because they see it as ego-threatening or as an image burst (Ashford and Tsui, 1991; Janis and Mann, 1977; Miller, 1976; Baumeister, (2002); Baumeister, Smeichel, B.J., and Vohs, 2007).

As a result of such emotional factors Linville and Fischer (1991) have argued that people have a tendency to spread out outcomes over time. For example they prefer separating two gains in a week over receiving them on one day. According to Linville and Fisher Renewable Resource Model, this will result in the best gain-savoring resources to draw on, so each will be appreciated more fully. Similarly, losses will have a greater impact on people when they occur together, therefore two losses are also preferred on separate days in a week (Linville and Fischer, 1991).

One way to alleviate the limited emotional resources is to introduce an avatar into the decision-making process. Introducing an avatar into the decision-making process can make decision less stressful since the avatar can take over part of the user's self management. Instead of making decisions themselves, the avatar becomes partly 'responsible' for making decisions for the user.

The purpose of this study is to examine this notion. We examine the hypothesis that that the use of avatars in mediated decision processes will lead to a increase of combining positive and negative events over time.

2 Method

Subjects were elderly persons, recruited from elderly care network end organizations in the Netherlands. Subjects were invited to the online experiment. 200 subjects participated in the research project. The age range for the participant swas from 60-78. 41% of the participants were male and 59% were female.

Participants were randomly assigned to a 2 (Avatar, no Avatar) x 2 (Outcome Event: gain, loss) between subjects factorial design. Subjects preferences for combining or separating events (same or different days in a week, i.e Same/Diff) were measured. In the avatar condition subjects made their decision through mediation of their avatar self presentation. In the non avatar condition subjects made the decisions directly by themselves.

For the Gain condition the events were: 'Winning a €450 prize from a local store' and 'Winning €400 in a lottery sponsored by a local charity'. For the Loss condition the events were: 'Losing a non-refundable airline ticket worth €450' and 'Accidentally damage to your flat screen television computer stereo system. The repairs will cost €400'. Subjects were asked for the events to occur on the same day in the week or on separate days of the week.

3 Results

The results are presented in the Table 1 below. The results show that in the non avatar condition subjects demonstrated a preference for spreading of outcomes. 79% of the subjects preferred to separate outcomes in the Gain condition and 88% preferred to separate events in the Loss condition. This is a reliable replication of Linville and Fisher (1991). However, a change in the time preference pattern is observed when a comparison is made to the avatar mediated conditions. In the avatar mediated gain condition only 40% choose for the spreading of outcomes This difference is significant (χ^2 , $df = 1$, $n = 100$, = 14,92 $p < 0.001$). In the avatar mediated Loss condition only 50% of the subjects choose for spreading of outcomes. Also this decline in preference for spreading is significant. (χ^2 , $df = 1$, $n = 100$, = 16.88 $p < 0.001$). The raw data of the online experiment were lost and further calculations on the data are only possible on the frequencies presented below.

Table 1. A comparison between percentage of participants preferring same day and different days for the occurrence of gains and losses in the Non avatar condition and the Avatar condition

	Human decision	Avatar Decision
	Same/diff.	Same/diff.
<i>Gain</i>	21% / 79%	60% / 40%
<i>Loss</i>	12% / 88%	50% / 50%

4 Discussion

Several conclusions can be drawn from this experiment. First, additional support is found for the spreading of outcome effect for the situation of elderly person's choice behavior in situations *without* using avatars. Both in the domain of gains and losses elderly subjects were observed to prefer the spreading of emotional impactful outcomes over time. This is congruent with Linville and Fisher's (1991) findings using student populations. Second, it can be concluded that the addition of an avatar leads to a significant preference shift and choosing of combining of outcomes over time. The result provide support for Limited Resource Theory and the Renewable Resource Model.

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