Escalation of Business, Political, and Personal Decisions:
The Role of Decision Goal, Transparency of Sunk Cost, and Accountability

E. Ásgeir Juliusson, Niklas Karlsson, Peter Loukopoulos, and Tommy Gärling

Juliusson, E. A., Karlsson, N., Loukopoulos, P., & Gärling, T. Escalation of business, political, and personal decisions: The role of decision goal, transparency of sunk cost, and accountability. Göteborg Psychological Reports, 2003, 33, No. 5. Escalation or the sunk-cost effect refers to a continued choice of an investment despite a negative outcome. Evidence from laboratory experiments indicates that vague decision goals, non-transparent sunk costs, and accountability increase escalation. Addressing the generalizability of these findings, the question was asked whether the different task dimensions account for escalation of real-life business, political, and personal decisions. An experiment employing 30 undergraduates showed that the task dimensions were judged to be typical for but failed to affect escalation of these different real-life decisions presented as scenarios.

Key words: Decision making, escalation, sunk cost, ecological validity

Normative principles of decision making dictates that one should ignore prior negative outcomes or sunk costs and only take into account future outcomes (Dawes, 1998). Yet, empirical research demonstrates that decision makers are likely to continue to choose an option that has incurred a negative outcome (Arkes & Blumer, 1985; Brockner, 1992; Staw, 1976, 1997). This phenomenon is referred to as the sunk cost effect or escalation.

Person characteristics such as prior knowledge and cognitive ability, characteristics of the task or task environment, and social context are sets of factors known to affect decision making (Payne, Bettman, & Johnson, 1993). A review by Karlsson, Juliusson, Loukopoulos, and Gärling (2003) shows that laboratory research demonstrating escalation has primarily investigated the effects of task dimensions categorized on the basis of
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whether they are related to characteristics of decision goal and transparency of sunk costs. Person factors are largely ignored. Social context is introduced through a third task dimension, accountability. A brief definition of each of these task dimensions is given below.

Decision goal refers to what the decision maker is asked to accomplish with the decision as well as the value assigned to the expected outcomes of the decision. Two dimensions are discernible: type of goal (e.g., a loss-minimization or gain-maximization goal, see Juliussen, 2003; Juliussen, Karlsson, & Gärling, 2001; Karlsson, Juliussen, Granqvist, & Gärling, 2002), and whether the goal is specified or vague. Providing a stopping rule vs. not providing a stopping rule (Boulding et al., 1997) or defining goals as an exact amount vs. a range (e.g., Juliussen, 2003; Juliussen, Karlsson, & Gärling, 2003) are examples of the latter. A vague goal leads to more escalation than a specified goal.

Transparency of sunk costs refers to variation in explicitness or salience of sunk costs. An example is vague feedback about a negative outcome (Handula & Bragger, 1999). Incompatibility between the decision goal and the sunk cost is another example (Heath, 1995). Non-transparency leads to more escalation than transparency.

Accountability entails varying the extent to which participants need to justify a decision to others (Simonson & Nye, 1992). Presence of accountability leads to more escalation than absence of accountability.

Although the bulk of previous research has been conducted in the laboratory, escalation is a phenomenon prevalent in many domains of real life (e.g., Staw & Ross, 1989). In order to begin to address the issue of the generalizability of the laboratory escalation research, the question we ask in this study is whether the different task dimensions account for escalation of business, political, and personal decisions.

Many laboratory-based escalation experiments have employed the original paradigm developed by Staw (1976) that simulates a business decision. In this paradigm participants play the role of a company executive. Half of the participants make an initial choice to allocate funds for research and development to one of two divisions. The remaining participants do not make such a choice. Then all receive financial information about the divisions indicating an improvement in the performance of one of the divisions and a decline in the performance of the other division. In this way some of the participants will feel responsible for a negative outcome. All participants then choose to allocate more funds to one of the divisions. Continuing investment despite negative feedback is the typical choice by those who feel responsible for the prior decision. Although a consistent finding in this paradigm, we ask to what extent escalation will differ for other types of decisions than (fictitious) business decisions, and whether differences on the specified task dimensions account for such differences.
In Table 1 we hypothesize a number of differences on the task dimensions that may distinguish business, political, and personal decisions. First, in business decisions the primary decision goal is likely to be specified (making a monetary profit or avoiding a monetary loss). In contrast, in political decisions the goals are more frequently intangibles such as peace, justice, and welfare, in personal decisions intangibles such as enjoyment and well-being. Second, due to a stronger tendency to set monetary goals and to use accounting tools, the transparency of sunk costs may be higher in business than in political and personal decisions. Third and finally, while justification to oneself may be important for all types of decisions, accountability (justification to others) is likely to be more prevalent in business and political decisions.

<table>
<thead>
<tr>
<th>Task dimension</th>
<th>Decision goal</th>
<th>Transparency of sunk cost</th>
<th>Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business decisions</td>
<td>monetary</td>
<td>transparent</td>
<td>yes</td>
</tr>
<tr>
<td>Political decisions</td>
<td>non-monetary</td>
<td>non-transparent</td>
<td>yes</td>
</tr>
<tr>
<td>Personal decisions</td>
<td>non-monetary</td>
<td>non-transparent</td>
<td>no</td>
</tr>
</tbody>
</table>

In order to test the validity of our hypotheses in the experiment reported below, a business decision scenario was adapted from Staw (1976), then transformed to comparable political and personal decision scenarios. In each scenario, decision goal (monetary vs. non-monetary), transparency of sunk cost (transparent vs. non-transparent), and accountability (accountable vs. not accountable) were varied. A test of how business, political, and personal decisions differ on these task dimensions was devised by asking the participants to rate how typical in real life the designated levels on the task dimensions are for the type of decision described in the scenario.

If business, political, and personal decisions differ on the task dimensions in the hypothesized ways, and if these task dimensions affect escalation as expected, one would anticipate more escalation of political than of personal decisions (due to accountability), more escalation of political than of business decisions (due to non-monetary decision goals and non-transparent sunk costs), and more

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1It may be questioned whether the undergraduates who were employed have sufficient knowledge to perform valid such ratings of business and political decisions. The reason we employed the undergraduates is that we wanted to have the same participants rate all scenarios. We intended to recruit experts in each domain at a later stage.
escalation of personal than of business decisions (due to non-monetary decision goals and non-transparent sunk costs). The experiment investigates whether the effects on escalation of the task dimensions are those expected for each type of decision. Participants decided between continuing the already chosen investment that had incurred a negative outcome or an alternative investment. Escalation is indicated by the frequency of choices to continue since these would lead to a worse future outcome than the alternative.

Method

Participants

Thirty undergraduates at Göteborg University volunteered in return for the equivalent of approximately $6 in payment. Twelve were men and 18 were female. Their ages ranged from 19 to 35 years with a mean of 24.5 years. None of them had studied economics or business administration.

Material

Three scenarios were constructed. The political decision and personal decision scenarios were made as similar as possible to the business decision scenario adapted from Staw (1976). All three scenarios contained the following pieces of information conveyed in the indicated order: (i) The investor/participant has already made an investment in a certain endeavor with the aim of reaching a specified goal; (ii) the investor receives negative feedback stating that the previous investment have had a less than expected effect (sunk cost); (iii) the investor has to make a choice between continuing the same venture or an alternative investment opportunity (which he or she is accountable for or not); and (iv) the investors is informed that the potential outcomes of the new alternative is somewhat better than the outcome of continuing the same venture. Combined in a balanced incomplete factorial experimental design consisting of four different versions of each scenario (see Table 3), the goal was either monetary or non-monetary, the sunk cost was either expressed in money or time (transparent or non-transparent), and the decision had to be accounted for or not. A complete description of each version of the scenarios is given in Appendix.

The monetary values were determined in pilot studies. One group consisting of 10 undergraduates was asked to indicate in Swedish Crowns how much they believed the non-monetary goals in each of the scenarios would be worth to the investor. Median values were rounded off and presented to another group of 10 undergraduates who for each scenario indicated in Swedish Crowns how much they believed the investor would be willing to invest to attain the monetary goals. The median values were rounded off and used together with the median values of the monetary goals in the scenarios presented in the main experiment.

Procedure

The participants serving individually or in small groups were seated in private booths facing a computer. Before they browsed forward to the first
All participants were presented the four versions of the business decision scenario, the political decision scenario, and the personal decision scenario with different levels on each of the three task dimensions. Across the participants the levels on the task dimensions were presented equally often. The order was individually randomized with the restriction that different versions of the same scenario were never repeated consecutively. When participants had completed one version of a scenario consisting of three pages (the scenario, choice, and typicality-rating page), they went to the next one by using the mouse to click on a virtual button on the screen. Participants were unable to browse backwards.

After reading the scenario on the first page (the scenario page), participants clicked on the continue button to reach the second page (the choice page). It contained a summary of the main information relevant to making the decision. Participants were instructed to decide between to continue what they had started or the alternative course of action. Thereafter, they rated on a 10-point scale ranging from indifferent to very much how much more they preferred the chosen alternative than the non-chosen alternative. On the third page (the typicality-rating page) the participants rated how typical in real life each level on the task dimension is for the type of political, business, or personal decision described in the scenario. The ratings were made on scales ranging from 1 to 10 where 1 was defined as “very untypical in real life” and 10 “very typical in real life”.

A session lasted about 45 minutes after which participants were debriefed and paid.

Results

Ratings of Typicality

Across all versions of the scenarios, both levels on the task dimensions were rated an equal number of times. When applicable the ratings were therefore reverse coded (Y=11-X) so that the means given in Table 2 all express the typicality of monetary decision goal, transparent sunk cost, and accountable. As may be seen, a monetary decision goal is more typical of business and political decisions than of personal decisions, a transparent sunk cost is more typical of business decisions than of the other types of decisions, and accountability is more typical of business than of the other types of decisions. Three repeated-measures analyses of variance (ANOVAs) yielded significant effects of decision goal (after Greenhouse-Geisser correction), $F(1.80, 52.25) = 109.41, p < .001$, of transparency of sunk cost, $F(1.43, 41.57) = 7.13, p < .01$, and of accountability, $F(1.61, 46.75) = 9.06, p < .01$. Separate Bonferonni-corrected dependent $t$-tests at $p=.05$ showed that for the typicality ratings of monetary decision goal business and personal decisions and political and personal decisions differed reliably, that for the typicality ratings of transparent sunk cost business
decisions differed reliably from both political and personal decisions, and that for
the typicality ratings of accountability business decisions likewise differed reliably
from both political and personal decisions.

Table 2
Mean Ratings of Typicality of Monetary Decision Goal, Transparent Sunk
Cost, and Accountable for Political, Business and Personal Decisions. (The
ratings were obtained on a scale from 1 to 10)

<table>
<thead>
<tr>
<th></th>
<th>Monetary decision goal</th>
<th>Transparent sunk cost</th>
<th>Accountable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business decisions</td>
<td>7.23</td>
<td>6.98</td>
<td>7.93</td>
</tr>
<tr>
<td>Political decisions</td>
<td>6.75</td>
<td>5.63</td>
<td>6.10</td>
</tr>
<tr>
<td>Personal decisions</td>
<td>3.14</td>
<td>5.61</td>
<td>5.64</td>
</tr>
</tbody>
</table>

Investment Decisions

Mean percentages of choices to continue investment and the signed mean
preference ratings are given in Table 3 for each version of the scenarios. The
preference ratings were given a positive sign if the choice was to continue
investment, a negative sign if the choice was the alternative investment. Hence, the
ratings ranged from 10 (strongest preference to continue investment) to -10
(strongest preference to choose the alternative investment). A 0 indicates
indifference between to continue or to choose the alternative. As may be seen,
with two exceptions participants on average choose to continue investments or
escalate.

Table 3
Mean Percentages of Choices to Continue Investments and Mean
Preference Ratings of Chosen Alternative Related to Combinations of
Decision Goal, Transparency of Sunk Cost, and Accountability for Business
Decision, Political Decision, and Personal Decisions

<table>
<thead>
<tr>
<th>Decision goal</th>
<th>Transparency of sunk cost</th>
<th>Accountability</th>
<th>%</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Monetary</td>
<td>Transparent</td>
<td>Yes</td>
<td>56.6</td>
<td>1.06</td>
</tr>
<tr>
<td>Non-monetary</td>
<td>Transparent</td>
<td>No</td>
<td>60.0</td>
<td>1.16</td>
</tr>
<tr>
<td>Monetary</td>
<td>Non-transparent</td>
<td>No</td>
<td>66.6</td>
<td>1.66</td>
</tr>
<tr>
<td>Non-monetary</td>
<td>Non-transparent</td>
<td>Yes</td>
<td>63.3</td>
<td>1.90</td>
</tr>
<tr>
<td>Political</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monetary</td>
<td>Transparent</td>
<td>Yes</td>
<td>66.6</td>
<td>1.56</td>
</tr>
<tr>
<td>Non-monetary</td>
<td>Transparent</td>
<td>No</td>
<td>56.6</td>
<td>0.70</td>
</tr>
<tr>
<td>Monetary</td>
<td>Non-transparent</td>
<td>Yes</td>
<td>66.6</td>
<td>1.63</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>*Non-monetary</td>
<td>Non-transparent</td>
<td>Yes</td>
<td>46.6</td>
<td>0.20</td>
</tr>
</tbody>
</table>

**Personal decisions**

<table>
<thead>
<tr>
<th>Monetary</th>
<th>Non-transparent</th>
<th>Yes</th>
<th>73.3</th>
<th>2.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-monetary</td>
<td>Transparent</td>
<td>No</td>
<td>66.6</td>
<td>2.00</td>
</tr>
<tr>
<td>Monetary</td>
<td>Non-transparent</td>
<td>No</td>
<td>70.3</td>
<td>2.50</td>
</tr>
<tr>
<td>Non-monetary</td>
<td>Non-transparent</td>
<td>Yes</td>
<td>50.0</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*Assumed to be typical. No typical personal decision scenario version was included.*
In order to assess the effects of the task dimensions, the means given in Table 4 were computed for each level separately for each type of decision. As may be seen, the only effect in the expected direction is that a non-transparent sunk cost leads to more escalation of business decisions. Separate 3 (type of decision) by 2 (levels on task dimension) ANOVAs performed on the signed preference ratings for each task dimension did not yield any significant effects at \( p = .05 \).

Table 4

*Mean Percentages of Choices to Continue Investments and Mean Preference Ratings of Chosen Alternative Related to Monetary vs. Non-Monetary Decision Goal, Transparent vs. Non-Transparent Sunk Cost, and Accountable vs. Not Accountable for Business Decisions, Political Decisions, and Personal Decisions*

<table>
<thead>
<tr>
<th></th>
<th>Business decisions</th>
<th></th>
<th>Political decisions</th>
<th></th>
<th>Personal decisions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>M</td>
<td>%</td>
<td>M</td>
<td>%</td>
<td>M</td>
</tr>
<tr>
<td>Monetary goal</td>
<td>61.7</td>
<td>1.36</td>
<td>66.7</td>
<td>1.60</td>
<td>71.6</td>
<td>2.33</td>
</tr>
<tr>
<td>Non-monetary goal</td>
<td>61.7</td>
<td>1.53</td>
<td>51.7</td>
<td>0.45</td>
<td>58.3</td>
<td>1.03</td>
</tr>
<tr>
<td>Transparent sunk cost</td>
<td>58.3</td>
<td>1.11</td>
<td>61.7</td>
<td>1.33</td>
<td>70.0</td>
<td>2.05</td>
</tr>
<tr>
<td>Non-transparent sunk cost</td>
<td>65.0</td>
<td>1.78</td>
<td>56.7</td>
<td>0.91</td>
<td>60.0</td>
<td>1.28</td>
</tr>
<tr>
<td>Accountable</td>
<td>60.0</td>
<td>1.48</td>
<td>56.7</td>
<td>0.88</td>
<td>61.6</td>
<td>1.08</td>
</tr>
<tr>
<td>Not accountable</td>
<td>63.3</td>
<td>1.41</td>
<td>61.7</td>
<td>1.16</td>
<td>68.5</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Discussion

The typicality ratings provide partial support for that business, political, and personal decisions differ on the task dimensions monetary vs. non-monetary decision goal, transparent vs. non-transparent sunk cost, and accountable vs. not accountable. Most clearly in line with the hypothesis, relative to the other decisions, the typical business decision was characterized by a monetary decision goal, a transparent sunk cost, and accountability, a personal decision by a non-monetary decision goal, a non-transparent sunk cost, and no accountability. The typical political decision was as expected characterized by a non-transparent sunk cost but a monetary rather than a non-monetary decision goal and no accountability rather than accountability. Before considering a revision of the hypothesis, it should however be noted that the undergraduates employed as participants may not have the necessary expertise required for performing valid ratings. Therefore, the results need verification by means of ratings obtained from experts in the different domains.
The investment decisions indicated that participants were overall more inclined to continue investments, or to escalate, than to invest in something else. This is consistent with the results of previous research (Karlsson et al., 2003). However, none of the task dimensions affected escalation, although this was expected on the basis of this previous research. It is unclear whether the task dimensions were validly operationalized, whether other unknown factors washed out the expected effects, or whether there is some other explanation. The use of a repeated-measures design may have induced carryover effects reducing the effects. However, analyses of only the first choices by each participant did not yield different results.

References


commitment to a chosen course of action. *Organizational Behavior and Human Performances, 16*, 27-44.

## Appendix: The Business Decision, Political Decision, and Personal Decision Scenarios

<table>
<thead>
<tr>
<th>Type of decision</th>
<th>Task dimensions</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Key components:</td>
<td>You are employed in management for a production company comprised of several divisions, 600 employees and an annual turnover of SEK 850 million. You have been given the task of [1: increasing the profitability of the company vs. improving the company’s image and goodwill]. One method of achieving this is through research and development [2: of new products vs. of environmentally friendly products and production methods]. With this goal in mind you decided to focus on the consumer goods division. In order to [3: increase the sales of the consumer goods vs. improve your company’s environmental friendliness], thereby improving your company’s [4: profitability by approximately SEK 30 million per year vs. goodwill and image], you invested [5: SEK 20 million vs. 18 months] in research and development of [6: new consumer products, which were expected to attract new consumers increasing the company’s profits vs. new environmentally-friendly production methods and products] It is now 2 years later and a report on the company’s profitability and overall performance has been released by an independent auditor. It turns out that [7: the consumer goods division did not achieve as good a performance as was expected vs. the environmentally-friendly production of consumer products has not had as large an impact on the company’s goodwill and image as expected]. However, the company’s board of directors wish to continue in the hope of further improving [8: profitability vs. goodwill and company image] and are, therefore, prepared to continue efforts to do so. You have read the auditor’s report carefully and even examined other divisions’ performance, including the industrial goods division. It appears that both the consumer goods division and the industrial products division are good investment possibilities, but that the latter is slightly better. In addition it seems as if both divisions would require similar amounts investment and effort on your part in order to improve profitability. However, you can only focus on one division. You need to decide which division to choose, [9: bearing in mind that your decision needs to be justified and accounted for to the company’s board of directors and shareholders at the AGM vs. not accountable]. Which division do you choose?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Political**

Key components:

- [1: monetary vs. non-monetary goal]
- [2: monetary vs. non-monetary goal]
- [3: information on goal relevant to the specification of type of sunk costs]
- [4: transparent vs. non-transparent sunk costs]
- [5: negative feedback]
- [6: monetary vs. non-monetary goal]
- [7: accountable vs. not accountable]

As a senior figure in the government of a region with 100,000 residents, one of your duties is to see to the [1: economic vs. social] well-being of your community. One way to do this is to attract investment. In line with this, several months ago you sought the investment of a large manufacturing company called HJK Pty Ltd.

In trying to attract the company to set up its operational base in your community, thereby providing [2: economic vs. social] benefits to the people and commune, it seems that Gecko Pty Ltd is the slightly better alternative. Furthermore, it appears that both will require a similar amount of effort and commitment on your part in order to seal the deal. Due to time and physical constraints, you unfortunately cannot deal with both companies simultaneously and must make a choice [7: accountable vs. not accountable]. What do you do?

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**Personal**

Key components:

- [1: monetary vs. non-monetary goal]
- [2: transparent vs. non-transparent sunk costs]
- [3: negative feedback]
- [4: accountable vs. not accountable]

You have decided to accept a job offer working for one month as a tour guide for tourists travelling to Greece so as to earn SEK 20,000 vs. to travel around and have fun at the same time. You have booked but not yet paid for the trip. You have, however, [2: paid SEK 2,000 and participated in a Greek language conversation course vs. participated in a 20-hour Greek language conversation course, where the tutor was an old friend, which meant that you did not have to pay].

Several weeks later you receive an offer of a similar job in Spain. [3: At around the same time you meet an old acquaintance who says that the income one receives for the work in Greece is not that high due to the cost of living].

The job in Spain seems to be of similar value and you even think that it is even a little better than the job in Greece. You cannot travel to both countries and, therefore, you need to choose one. [4: You will also need to explain your choice to your partner vs. not accountable]. Which do you choose?

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1 Company and country names were varied from scenario to scenario.