Justification pressure in risky decision making: Search for risk defusing operators

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ABSTRACT

Under justification pressure, the decision maker knows in advance that the decision has to be justified to somebody afterwards. The effect of justification pressure on the search for risk defusing operators (RDOs) and the role of RDOs in the justification texts were investigated. An RDO is an action intended by the decision maker to be performed in addition to an otherwise attractive alternative to decrease the risk. As predicted, in Experiment 1 participants (60 non-students) under justification pressure searched more RDOs. Additionally, in Experiment 2 (80 non-students) RDO search success was varied. Under justification pressure, persistence of RDO search was higher when no RDO could be detected. In the justification texts, the existence or non-existence of RDOs played a prominent role. Searching for RDOs supports people in their goal to make a good decision and in their attempt to convince the addressee of their justification that the decision was good.

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1. Introduction

Research on decision making has shown task effects such as the number of alternatives and dimensions, time pressure or response mode to shape the decision process considerably. Payne, Bettman, and Johnson (1993) present an overview of results. The present paper investigates the effect of justification pressure (accountability) as a specific type of task effect on the process of risky decision making. We are especially interested in the question of how risk defusing behavior is affected by justification pressure and what role risk defusing possibilities play in the justification texts.

Most of us have experienced decision situations in which we know in advance that the decision has to be justified. A typical example is a professor who proposes to the faculty to accept or to reject a dissertation thesis. This professor has to justify his or her decision by presenting the arguments for the decision in written form. Of course, we do not have to justify all of our decisions. A reader who selects a book for reading on his holidays in a bookstore does not usually have to justify his decision. This fact does not exclude that he would be able to account for his decision if he was asked to do so.

In a situation with Justification pressure (postdecisional accountability, Lerner & Tetlock, 1999) the decision maker knows in advance that the decision has to be justified later to a person or group of persons. In a situation without justification pressure

the decision maker has no reason to assume that a justification is necessary. Situations with and without justification pressure can be considered as endpoints on a continuum. From the point of view of decision making but also from the perspective of social psychology it is an interesting question whether and how justification pressure affects the decision process. Justification pressure has been investigated in social judgements as well as in decision making from a perspective of decision theory. An overview of the research is presented by Lerner and Tetlock (1999) and Tetlock (1992). Many studies are available which investigate social judgements. In our paper we focus on choice tasks instead of justification tasks and on the process approach to decision making (pre-decisional processes, Svenson, 1996).

In the present research we investigate the effect of justification pressure on the process of risky decision making. Experimental research on the influence on pre-decisional processes is quite rare. Although some authors explicitly assume that the ease of justification of the choice of an alternative influences choice behavior (e.g., Bowen & Qiu, 1992; Hsee, 1995; Hsee, 1996; Shafir, Simonson, & Tversky, 1993; Tversky, 1972), justification pressure is not varied experimentally in any of these studies. Huber and Seiser (2001) investigated justification pressure in multidimensional decisions, using the common alternatives × dimensions matrix to operationalize information search behavior. Under justification pressure, more information about the alternatives was searched. The process of decision making became more elaborated, whereas global decision heuristics did not change. This result is in contradiction to De Hoog and Van der Wittenboer (1986). However, these authors

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forced their participants to select one out of five available decision heuristics. This procedure may have had a reactive effect on the decision process. A more in-depth discussion can be found in Huber and Seiser (2001).

Our specific research question concerns risk defusing. Experiments on risky decision making in general use gambles as alternatives or alternatives that are pre-structured like gambles by the experimenter. Two central variables have been identified to govern the decision in such experiments (cf., e.g., Wu, Zhang, & Gonzales, 2004): (a) the subjective values (utilities) of the consequences, and (b) the subjective probabilities of obtaining the consequences.

In recent years, however, a different approach has yielded other results. In such experiments, the description of a realistic scenario with at least two alternatives is presented to the decision maker. An example is the situation of a business executive who is confronted with two options: she can travel into a country where an epidemic disease rages in order to negotiate an important contract or she can postpone the meeting with the danger of failing to sign a satisfying contract (Bär & Huber, 2008). A number of experiments have used realistic scenarios: Huber, Wider, and Huber (1997), Huber, Beutter, Montoya, and Huber (2001), Huber and Huber (2003, 2008), Huber and Macho (2001), Ranyard, Williamson, and Cuthbert (1999), Ranyard, Hinkley, and Williamson (2001), Schulte-Mecklenbeck and Huber (2003), Williamson, Ranyard, and Cuthbert (2000a, 2000b), and Tyszka and Zaleskiewicz (2006). The main behavioral differences between choices among gambles and choices in quasi-realistic risky scenarios are: First, in experimental settings enabling the decision maker to select which information to examine or not to examine, in contrast to decisions designed according to the lottery paradigm many decision makers are usually not actively interested in probability information. Second, often, risk defusing behavior plays a central role in the decision process. If a decision maker detects that an otherwise attractive alternative may lead to a negative outcome, he searches for a risk defusing operator that eliminates or reduces the risk involved.

A risk defusing operator (RDO) is an action planned by the decision maker to be performed in addition to a specific existing alternative and is expected to decrease the risk. In the example above, the businesswoman may not only contemplate the probability of becoming infected, but may inquire whether a vaccination exists or look for possibilities to prevent an infection (e.g., by disinfecting water before drinking it). These additional actions are RDOs. RDOs are quite common in everyday risky decision situations. Typical examples are: buying insurance, wearing protective gear to avoid contact with a corrosive substance, or copying important files. Shiloh, Gerad, and Goldman (2006) replicated the main results concerning probability and RDOs in a study with real life decisions in genetic counseling. If an RDO is detected with a promising alternative, it is usually chosen (Bär & Huber, 2008).

Integrating an RDO is not the same as looking for a new alternative. An RDO provides the decision maker with control over the risk and, as is known from research on risk perception, controllable risks are experienced as less grave than uncontrollable ones (e.g., Lion, 2001; Vlek & Stallen, 1981; Weinstein, 1984).

Huber (2007) reviews the results of experiments which investigated factors influencing the search for RDOs (e.g., attractiveness of the alternative, expectation of finding relevant information) and the factors affecting the acceptance of an RDO (e.g., cost, effect). Several types of RDOs are distinguished in Huber (2007), Huber and Huber (2003), and Huber and Wicki (2004). There is a large variability between scenarios in the search for RDOs as well as for probabilities. Huber and Huber (2008) found two factors, background knowledge and local expectations to get useful information, determining the search.

To our knowledge, only Lion and Meertens (2001) investigated the effect of justification pressure on the process of risky decision making with realistic scenarios. They found accountability to lead decision makers to a more elaborate information search. Furthermore, if decision makers were made aware about the possibility to control side-effects of a medication, accountable participants were more interested in this information.

In our Experiment 1, we compare a justification pressure condition to one without justification pressure. We are interested in the effect of this variation especially on the spontaneous search for RDOs and the mention of an RDO in the justification. There are, however, in real life situations where – for different reasons – the search for an RDO turns out to be unsuccessful, for example, because there exists no vaccination against a specific infection. Experiment 2 thus expands the research question of Experiment 1: we compare the consequences of a successful and an unsuccessful RDO search on information search behavior and on justification. We expect people to continue RDO search when the first search attempt is unsuccessful. This persistence of search should be higher under justification pressure. In the justification texts, we expect a futile RDO search to play an important role also.

What effect should justification have on choices? One could expect decision makers to choose more likely the non-risky alternative under justification pressure. However, we have to take into account that the riskyness of an alternative is changed dramatically if an RDO is incorporated and that an initially risky alternative becomes non-risky. Therefore, the prediction concerning choices can be made only for participants not searching for RDOs at all and in Experiment 2, for participants being unsuccessful in their RDO search.

2. Experiment 1

In this experiment, we contrast a condition with justification pressure with one without such a pressure. Based on the results of Huber and Seiser (2001) and Lion and Meertens (2001) we expect that also in risky decisions generally more information is processed under justification pressure. We predict specifically a more frequent search for RDOs. In a quasi-realistic task, the decision maker has to construct a mental representation of the alternatives. This construction is an important part of the decision process. The search for an RDO is an attempt to elaborate a mental representation by incorporating an RDO into the mental model. An elaboration of the mental representation entails costs for the decision maker, at least a higher cognitive effort and more time spent. Under justification pressure, these costs should be borne more likely because justification pressure alerts the decision maker to the necessity of making a good decision because a bad decision may have additional negative consequences. The decision maker should therefore be careful not only not to miss possible negative consequences of the alternatives but also to look for means to eliminate the risk of the chosen alternative. Furthermore, RDO search is related to control and – as mentioned above – control becomes more salient in a situation with accountability (Lion & Meertens, 2001).

In the justification texts, we expect decision makers to mention a detected RDO: the existence of an RDO should be emphasized as a means to defuse the existing risk.

2.1. Method

2.1.1. Participants

About 60 non-students of different professions (35 f, 25 m; mean age 26.6 years) took part as voluntary participants. None of them had taken part in a similar experiment before.

2.1.2. Decision scenarios

The breeding turtles scenario (see Huber & Huber, 2003) was used as warming-up task. The main task was the virus scenario.