Domain-specificity and gender differences in decision making

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Domain-specificity and gender differences in decision making

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Abstract
This paper examines the effect of characteristics of the decision situation and of the decision maker on decision processes and outcomes in the context of risky choice. Male and female undergraduate students were presented with decisions from different domains of life. For each decision they indicated the likelihood with which they would use each of five decision modes (i.e., ways of making the decision): by following someone’s advice, by weighing pros and cons, by following their intuition, etc. They also chose between two courses of action described for each decision and rated the perceived riskiness of both alternatives. We found that the content domain of the decision and/or the gender (or the interaction of both) of the decision maker influenced decision mode usage, and risk perception, behavior, and preference (derived within a risk-return model of risky choice). These results have implications for educational interventions and decision aids that attempt to influence or change the risky decisions of target populations.

Decision researchers have tended to search for regularities in the way people make decisions that apply regardless of the content of the decision and regardless of individual differences among decision makers, partly because of the relative youth of decision research as an intellectual discipline. In most scientific domains, general laws and principles are identified first, only to be qualified at later stages. In the area of risky choice, for example, researchers have argued for the pros and cons of alternative conceptualizations of risky decision making (for example, expected utility vs. risk-return models: Bell, 1995; Jia and Dyer, 1996; Sarin and M. Weber, 1993) but have been less interested in examining these models across different decision domains or with a focus on individual differences such as gender or culture. Researchers have also been more interested in documenting the wide range of modes or strategies used by people to arrive at decisions and have been less concerned with specifying when and why people with different characteristics or needs will resort to one strategy versus another.

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Goldstein and Weber (1997) provided a historical overview of other areas of cognitive psychology (e.g., memory, learning, and problem solving) that followed similar content-independent research strategies in their early days, but ultimately embraced more complicated, contingent models that improved predictions by incorporating characteristics of the situation and of the person. The current paper explores the extent to which the situation and particular characteristics of the decision maker need to be incorporated into models of decision making to improve their predictive ability.

There are important theoretical as well as practical reasons to advocate the acquisition of greater knowledge about the effects of situational as well as of personal characteristics on decision making. First, content-independent models of risky decision making and assessment scales (e.g., of risk attitude) based on them have been shown to lack predictive ability. That is, risk-taking behavior in one domain does not seem to predict risk-taking behavior in other domains. Secondly, there might be interactions between the effects of decision content and of characteristics of the decision maker. These can lead to apparently contradictory results, if the role of content is examined without consideration of individual difference characteristics in the studied populations, or if the effects of individual difference characteristics are studied without concern for decision content domain. At a practical level, applications of decision models in such areas as public policy or marketing could provide more accurate predictions of behavior, if these models incorporated individual and domain-specific differences in information processing and decision making.

In this paper, we examine the effect of decision content and one easily assessed and pervasive individual difference variable, namely gender, on several aspects of decision making: decision mode selection, risk perception, risk behavior, and risk preference. As the literature reviewed in the next part of our paper shows, there is some evidence that both decision content and gender might influence these important components of decision making, but no study (to our knowledge) has looked systematically at possible interactions between decision content and gender as they affect the decision process.

Content effects

DEcision mode selection

Research over the past two decades has shown that people use a much broader range of decision modes than traditionally studied in economics, philosophy, and decision analysis. Yates and Lee (1996) coined the term decision modes in their description of culture-specific preferences for particular methods or strategies for arriving at decisions and distinguished between analytic, rule-based, and automatic decision modes. Others have also distinguished among analytic strategies (which have received the lion share of research attention, e.g., Payne, Bettman, and Johnson, 1988) and intuitive decision strategies (Hammond, 1966; Klein, 1993; Loewenstein et al., 1999). Weber, Tada, and Blais (1998) provided a broader and more differentiated taxonomy of the qualitatively different decision modes by which people have been shown to arrive at decisions. They distinguished between analytic or cost–benefit-based decision making (with computation and comparison of the
pros and cons of different choice alternatives as the primary decision process), recognition-based decision making (with categorization of the decision as one of a particular type for which a decision rule exists as the primary decision process), reason-based or argument-based decision making (with justifiability of the decision as the primary motivation, and the marshalling of reasons as the primary process), affect-based decision making (with an emotion-guided approach and avoidance reaction as the primary decision process), and story-based or schema-based decision making (with internal coherence of the story surrounding the chosen alternative as a choice criterion, and the incorporation of information into narrative or causal structures as the primary decision process).

The content domain of a decision, or what the decision is 'about'\(^1\), suggests the implicit selection of decision mode, i.e., how they go about making the decision. Goldstein and Weber found that respondents were more likely to engage in story-based decision making when asked to choose between potential spouses and more likely to make analytic cost–benefit tradeoffs when asked to choose between CD players. Frisch, Taylor, and O'Brien (1992) distinguished among analytic modes that only consider personal utility (which they called 'objective' strategies) and those that also consider the preferences and needs of other people affected by the decision (which they called 'compromise' strategies). They found that people used different modes when making decisions in the personal domain than when making professional decisions, with respondents reporting the use of more compromise strategies for personal decisions and of more objective strategies for professional ones.

In addition to these main effects of decision domain on preferred decision mode, there is evidence suggesting that decision content may moderate the effect of other decision characteristics, for example, gain versus loss outcome framing. Frisch (1993), Schneider (1992), Wagenaar, Keren, and Lichtenstein (1988), Wang (1996), and Kuehberger (1998) all found that the magnitude of framing effects varied widely across scenarios that differed ‘only’ in content. Fagley and Miller (1990) further found that framing effects were not only affected by content, but also by gender, with women being more susceptible to framing. Weber (1998) hypothesized that differences in content may lead to the use of different decision modes, and that different decisions modes may be more or less susceptible to framing effects. It thus appears to be an important challenge for decision researchers to predict which decision mode(s) people will use as a function of the content domain of the decision.

**RISK BEHAVIOR, RISK PREFERENCE, AND RISK PERCEPTION**

Before reviewing observed effects of decision content and gender on risk perception, risk behavior, and risk preference, we need to digress into a brief discussion of how the risk constructs have been defined and modeled. Schoemaker (1993) distinguished between **observed risk taking**, which refers to overt behavior, such as a person’s choice in a gambling task or an investment decision, and **intrinsic risk**

\(^1\)Following Goldstein and Weber (1997), we distinguish between content effects and context effects, which are associated with the particular configuration of outcome values in the set of choice alternatives (e.g., the presence of dominated alternatives or the degree of dispersion of probabilities within a gamble). Our paper focuses on the former, while others (e.g., Payne, Bettman, and Johnson, 1988) have studied the latter.
attitude or risk preference, which refers to the person's basic dispositions towards risk, assumed to be a stable trait.

Yet, risk preference has typically been operationalized as risk attitude within the expected utility (EU) framework, where risk attitude describes the shape of a person's utility function, i.e., is derived from observed risk taking. Several problems have been associated with this operationalization, as the result of its confounding of behavior and attitude. First, different methods of measuring people's utility functions have been shown to result in different classifications of individuals with respect to risk attitude (Slovic, 1964; MacCrimmon and Wehrung, 1990). And even when the same assessment method is used, individuals do not appear to be consistently risk seeking or risk averse across different domains and situations, both in laboratory studies and in managerial contexts (Schoemaker, 1990).

Weber (1999; Weber and Milliman, 1997) has argued that an individual's risk preference is more naturally conceptualized in the risk-return framework of risky choice used in finance (Sarin and M. Weber, 1993). In this framework, an individual's willingness to pay for an option is assumed to reflect a tradeoff between the option's perceived return (i.e., its expected value) and its risk (i.e., its variance). A generalized risk-return model predicts a person's strength of preference for a risky option (which can be measured by choice proportions or by willingness to pay for the risky option) by the regression equation $a(V) + b(R) + c$, where $V$ is the option's (expected) value and $R$ the perceived riskiness of the option, i.e., the decision maker's subjective assessment of its riskiness, on either a rating scale or in ordinal comparisons. Numerous empirical investigations have shown that risk perceptions do not coincide with the variance of risky options (for a recent review see Brachinger and M. Weber, 1997). There is also documentation of systematic individual, situational, and group differences in risk perception (Bontemto, Bottom, and Weber, 1997; Slovic, 1997).

The generalized risk-return model allows for the possibility that differences in risk behavior are driven either by differences in the perception of the risk or value of a risky option or by differences in people's preference for perceived risk (either liking it or disliking it, and labeled perceived-risk attitude by Weber and Milliman (1997)). Perceived-risk attitude is represented by the $b$ coefficient in the risk-return regression equation, which represents the effect of perceived risk on risk-taking behavior.

While EU and risk-return model predictions can be isomorphic at the level of predicting choice proportions (Bell, 1995), the risk-return framework has an important advantage over the EU framework in the area of decision aiding, because it allows us to distinguish between different reasons for why an individual or a group appear to take a certain level of risk (Weber, 1999). An understanding of people's risk behavior with the goal of changing that behavior requires knowledge of its component processes, which are not differentiated in the EU framework. Successful interventions will be of a very different nature if an individual's behavior (e.g., unwarranted risk aversion) is the result of an unrealistic perception of the risks involved in a particular decision than if it is the result of a pathological aversion to taking (even small) perceived risks.

In a study that compared different ways of conceptualizing risk preference (including as perceived-risk attitude and EU risk attitude), Weber and Milliman (1997) reported greater cross-situational consistency of the construct when it was
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operationalized as perceived-risk attitude. In other words, the notion of risk preference as a stable individual difference trait was sustained only when it was operationalized as perceived-risk attitude. However, as the authors cautioned, this greater consistency in risk preference comes at the cost of having to further investigate the factors that influence risk perception.²

The conceptualization of risk preference as perceived-risk attitude and of perceived-risk attitude as a (relatively) stable trait in the risk-return framework (Weber, 1999) precludes the possibility that risk preference would influence risk perception. This would appear to be a limitation of the model, since such a relationship and influence has been shown to exist by Sitkin and Weingart (1995). Based on a framework developed by Sitkin and Pablo (1992), Sitkin and Weingart investigated the effects of risk propensity and risk perception on risky decision-making behavior. They defined risk propensity³ as an ‘individual’s current tendency to take or avoid risks,’ (p. 1575), and hypothesized that risk propensity was simultaneously persistent and changing over time, due to experience. In their study, risk perception partially mediated the relationship between risk propensity and behavior: a greater propensity was associated with a lower risk perception, which was, in turn, related to riskier behavior.

Weber and Milliman (1997) did not attempt to establish causal relationships between risk perception, risk preference, and choice. They simply demonstrated that cross-situational changes in choice were related to changes in risk perception (though they did not formally test whether the effect of situational factors on choice was mediated by risk perception), a finding consistent with Sitkin and Weingart (1995) who found that risk perception partially mediated the effect of a situational characteristic (e.g., problem framing) on behavior.

In summary, Weber’s (1999) generalized risk-return framework and Sitkin and Pablo’s (1992) framework have much in common. Both assume that risk preference (a trait variable) and risk perception affect risk behavior. Sitkin and Pablo’s conceptualization also allows for the possibility that situational factors may not only affect risk perception, but also people’s risk propensity (e.g., outcome history), so that the latter is not a pure measure of their risk preference, the stable dispositional variable.

Gender differences in decision mode selection, risk perception, and risk behavior

A number of meta-analytic studies of gender differences have been conducted in the general psychology literature. In a recent overview, Eagley (1995) supported the notion that gender differences exist in social interactions and a range of personality traits (e.g., assertiveness, self-esteem, trust). When it comes to gender

²Schneider and Lopes (1986), for example, suggested at least one of these factors. Lopes' SP/A theory relates choice behavior to (a) a dispositional variable (i.e., to seek either security (S) or potential (P)) that one would expect to show some correspondence to Weber and Milliman’s (1997) perceived-risk attitude, and (b) a situational variable (aspiration level (A)) that one would expect to affect risk perception within a risk-return framework.

³Sitkin and Pablo (1992) distinguished between risk propensity and risk preference, where the latter is defined as the disposition of being attracted or repelled by risk, whereas the former is a current tendency that is partly determined by risk preference.
differences in decision-making processes, though, the results have been less clear cut. Johnson and Powell (1994) reviewed the literature on gender differences in business decision making and found that studies before 1980 suggested that women were more cautious, less confident, less aggressive, had inferior leadership and problem-solving and leadership abilities, and were easier to persuade. However, more recent investigations seem to have refuted some of these results. For example, no significant gender differences were found in recent studies comparing management decision-making styles or values (Powell, 1990) and leadership abilities (Eagley, Karau, & Makhijani, 1995).

There is a large literature on gender differences in decision making. Our review will focus on the variables most relevant to our study, namely, gender differences in decision mode selection, risk perception, and risk behavior, as well as potential interactions between the gender of the decision maker and the domain of the decision.

DECISION MODE SELECTION

Some reported gender differences on affective variables appear to have some bearing on the modes of decision making used by men and women. For example, women have been found to rely more on social support in reaction to stressful events (Matuszek, Nelson, and Quick, 1995) than men do, and in a study of self-construals related to individualism and collectivism, Kashima et al. (1995) found women to be more 'relational' than men, i.e., perceiving themselves as being more emotionally related to others than men do. These findings suggest that women may be more likely than men to consider others when making a decision and may also seek social support more often than men while trying to decide what to do. Consistent with this hypothesis, Frisch and O'Brien (1990) found that women were more likely to seek the advice of people who have been in similar situations when trying to make a decision, whereas men were more likely to rely on authorities with credentials.

It is a popular stereotype that women are more in touch with their (or others') emotions than men are. This stereotype seems to be supported by empirical evidence. Women have been found to recognize emotions in others more easily than men and to be able to express a wider variety of feelings (Brody and Hall, 1993). It is at least plausible that greater facility with the processing and production of affect would translate into increased female preference for affect-based processing and decision making, a proposition for which there is only mixed evidence. In a study of impulse purchases in nine product categories, Dittmar, Beattie, and Friese (1996) reported that women were more likely than men to report buying on impulse, and gender differences in impulse shopping were greatest in the case of jewelry, body care items, and kitchen equipment. Epstein, et al. (1996), on the other hand, who investigated individual differences in intuitive-experiential and analytical-rational thinking styles, found no significant differences between men and women on either dimension. Frisch, Taylor, and O'Brien (1992) also found no significant gender difference in the use of objective strategies to resolve decisions. If anything, women were more likely to use such strategies than men did. Thus it seems that existing gender differences in the recognition and expression of emotions do not necessarily translate into differences in preference for emotion-based decision making.
Whether men and women use different decision modes when making decisions is still debatable and has, to our knowledge, rarely been empirically investigated. One might wonder whether such gender differences, if they really exist, would be general (suggesting a trait, defined as a stable and constant disposition) or domain specific. For example, women may be more likely to seek social support when trying to make a decision, but this could be true only in certain situations (e.g., when facing a career decision). Knox, Zusman, and Nieves (1997), who asked undergraduate students to rate how difficult they usually found it to make a decision and to describe their most difficult relationships decision, reported domain-specific gender differences. Even though men reported having less difficulty in making decisions in general than women did, women seemed to have a greater facility with relationships decisions. Knox, Zusman, and Nieves explained the latter by the fact that relationships are usually perceived as a 'woman's business', and that women, as a result, are more familiar and comfortable with these decisions.

It is possible that domain-specific gender differences in decision mode selection would arise because men and women have different levels of familiarity with making decisions in some domains (e.g., the social domain) or different degrees of confidence in their ability to handle some decisions. Research on causal attributions for performance has generally found women to have lower self-confidence than men and to underestimate their abilities. Yet, Beyer and Bowden (1997) found that to be true only when women were asked to engage in what the researchers described as 'masculine' but not 'feminine' or 'neutral' tasks.

Even though results such as those reported by Knox, Zusman, and Nieves (1997) and Beyer and Bowden (1997) provided some evidence that gender differences may be content-specific, another study by Powell and Ansic (1997) found this not to be the case in two financial decision-making tasks (e.g., insurance vs. currency market decisions). While men and women differed in their ways of making the decisions (e.g., men reported using multiple strategies more often than women did), those differences were found for both decision-making tasks, suggesting that it is not decision content per se that affects decision processes, but the domain of the content (Weber, 1998).

RISK PERCEPTION AND BEHAVIOR

Gender differences in risk perception and risk behavior are well documented, especially in the financial risk domain (e.g., investing, gambling) where women usually perceive risks to be greater and are less likely to take financial risks than men (Powell and Ansic, 1997; Schubert et al., 1999).

These results appear to be true in the domain of health and safety risks as well. Based on the results of a national survey that assessed perceptions of environmental risks and attitudes and opinions on various health issues, Flynn, Slovic, and Mertz (1994) found that Caucasian women perceived the risks of environmental and health/safety hazards to be greater than Caucasian men did. There was, however, no parallel gender difference in risk perception between minority women and men, who both reported risk perceptions similar to those of Caucasian women. Flynn, slovic and Mertz hence proposed a sociopolitical explanation for why Caucasian women and members of minority groups may see the world as riskier. That is, they suggested
that perceptions of greater risk may, in fact, be no: unrealistic for individuals whose deficits in power and control may make them more vulnerable.

Gender differences in health and safety risk perceptions seem to translate into differences in risk behaviors. Hersch (1996) analyzed the smoking, exercise, and other hygiene and health and safety habits reported by 18,000 individuals in a national survey. Women reported safer behaviors than men did, which was true for both Caucasian and non-Caucasian individuals. Even after controlling for characteristics, such as education, marital status, and personal income, women still reported less risk-taking behaviors than men did (but the apparent gap between the greater risk-taking behaviors of Caucasian versus non-Caucasian men was reduced). A possible explanation for these results, as suggested by Hersch, is that there might be gender differences in the perceived costs and benefits of risky consumer behaviors that are similar in different ethnic or socio-economic subpopulations and would contribute to differences in risk behavior.

The results reported by Weber, Blais, and Betz (2000) seem to be consistent with such an explanation, even though the study did not formally test the effects of both content domain and gender on risk perception and behavior, and on perceived-risk attitude. Weber, Blais, and Betz assessed perceived risks, expected benefits, and behavioral intentions for risky behaviors in five domains of life (i.e., financial, ethical, health and safety, recreational, and social) and found strong gender differences in the perceptions of risks, and only small differences in expected benefits, with women seeing significantly greater risk than men in every domain except in the social domain. These content-specific gender differences were paralleled by gender differences in behavioral intentions: in all but the social domain, women reported being significantly less likely to engage in the risky activities than men did.

More evidence supporting the content-specificity of risk behavior has been found by Byrnes, Miller, and Schafer (1999) who conducted a meta-analysis of 150 studies comparing risk behaviors of men and women in a variety of domains (e.g., financial, health) and tasks (e.g., hypothetical choices, self-reported behaviors). They found that even though in these studies men were taking more risks overall (i.e., as indicated by positive effect sizes), the magnitude of the effect sizes (and hence, of the gender differences) varied as a function of the nature of the domain. For example, the mean effect size for self-reported drinking/drug use behavior was only 0.04, while the effect size for driving was 0.29.

Byrnes, Miller, and Schafer (1999) distinguished between three types of theories of risk-taking behavior: those that attribute differences in risk-taking behaviors to personality differences (e.g., Zuckerman’s (1991) account of the sensation-seeking personality), those that attribute them to situational differences (e.g., Kahneman and Tversky’s (1979) prospect theory), and those that consider both dispositional and situational influences and try to explain why certain individuals engage in risky behavior in certain situations (e.g., Lopes’ (1987) SP/A theory or Weber’s (1999) risk-return theory). It is the third class of theories that may explain why men and women differ in their risk behaviors and may provide some theoretical reasons as to why gender differences in risk taking might arise. For example, according to Byrnes, Miller, and Schafer it seems plausible that, among other explanations, competition forces individuals to take risks in order to gain or maintain a position of power in certain domains of life (which would probably differ for men and women). Or
individuals may take risks in a particular domain because they believe they will be successful and value success in that domain (again, likely to be gender linked), which brings us back to the issue of levels of familiarity/confidence previously discussed in relation to decision mode selection.

Research questions and hypotheses

The reviewed research suggests that the content domain of a situation as well as the gender of the decision maker may influence decision mode selection and risk perception and behavior. Thus in our study, we tried to relate decision mode selection, risk perception, risk behavior, and perceived-risk attitude to (a) the domain of the decision and (b) the gender of the decision maker. In particular, our goal was to extend some well-known findings (i.e., the gender and domain specificity of risk perception and risk behavior) to a broader range of content domains, while at the same time examining their interactions. In this context, we provided an additional test of Weber's (1999) hypotheses that perceived-risk attitude is (a) relatively invariant for a particular individual across domains and (b) has the same distribution of values for both genders.

We also investigated a completely new question, namely the effects of both the content domain of a decision and the gender of the decision maker on decision mode selection. Following Frisch and O'Brien (1990) and Frisch, Taylor, and O'Brien (1992), we investigated people's likelihood of employing the following five decision modes when making decisions: (1) Compromise Mode: Decisions are made by arriving at tradeoffs or compromises between costs and benefits to different parties or to different goals. (2) Authority/Consultation Mode: Decisions are made by relying on the advice of respected others. (3) Decision Avoidance/Status-quo Mode: Decisions are made by delaying and avoiding any action and thus sticking with the status quo. (4) Rational Mode: Decisions are made from a personal utility standpoint, using an objective approach such as generating a list of pros and cons for each alternative and selecting the option that is overall best. (5) Emotional Mode: Decisions are made by consulting one's intuition, emotions, or gut feelings. We used these modes because they emphasize a selfish versus other-inclusive utility distinction on which women have been shown to differ.

CONTENT-SPECIFICITY

We expected the content domain of a decision to affect usage of the five decision modes (H1a). In particular, we expected respondents (H1b) to report a greater usage of the compromise mode for decisions with a strong social/relational component. We also predicted that both risk perception (H2) and risk behavior (H3) would be affected by the domain of the decision, but that perceived-risk attitudes would be affected less or not at all (H4).

GENDER DIFFERENCES

We wanted to investigate whether men's and women's decision mode usage would differ and if so, whether these differences would be content specific or content independent. Because women tend to be more relational than men, we expected them to use the compromise decision mode more, but expected that this difference
would hold only for decisions with a strong social/relational component (H5a). We expected that gender differences in the compromise mode usage would, at least partially, be explained by the fact that women are more relational than men are (H5b). As for risk perception and behavior, we expected findings similar to those reported by Weber et al. (2000), with women’s risk perceptions being lower than men’s for decisions with a strong social/relational component, and the reverse being true in the other domains (H6). As a consequence, we also predicted that women would be more likely than men to take risks in decisions with a strong social/relational component (H7). Finally, we did not expect gender difference in perceived-risk attitude (H8).

Materials and methods
PARTICIPANTS AND PROCEDURE
Ninety-six undergraduate students from the Ohio State University (48 women and 48 men, age ranged from 15 to 47, median of 19) participated in return for credit in an introductory psychology course. Students filled out the questionnaires in a lab setting and were allowed an hour to do so. An experimenter was present to answer any questions. Respondents had a chance to win a $50 cash prize by participating in the study.

INSTRUMENTS
We created five decision-making scenarios, each of which represented a choice dilemma between two courses of action: whether to break up (or not) with a long-time partner, to plagiarize (or not) a term paper, to buy (or not) an expensive car, to use (or not) the birth control pill as a contraception method, and to quit (or not) a job to go to graduate school. These decisions are described in more detail in the Appendix. For each dilemma, we described five concrete ways in which the decision might be made, each of which was an example of the five decision modes described previously. Even though all of these decisions had, to a certain degree, a social component, three of them were constructed so as to convey explicit social considerations: the break up, the car purchase, and the birth control decisions.4 Respondents were asked to imagine themselves in the given dilemma and to rate, on a 5-point Likert scale that ranged from ‘Very unlikely’ to ‘most certainly’, the likelihood with which they would choose each described decision mode to resolve the decision. The same five decisions were then presented again (in a different

4We conducted a study to validate our choice of dilemmas. Fifty-four undergraduates (33 women and 21 men aged from 17 to 47, median of 19) participating in our experiment for course credit, read the five decision dilemmas described in this paper. We asked them to rate, on five-point rating scales, to what extent each dilemma involved considering others’ opinions and feelings when trying to decide what to do. And as we predicted, and supporting our a-priori classification of scenarios, the break up, car purchase, and birth control decisions (M = 3.31, 3.53, and 3.57, SD = 1.30, 1.19, and 1.47, respectively) were perceived as involving other people to a greater extent than were the paper and graduate school decisions, (M = 2.65 and 2.70, SD = 1.41 and 1.38), t(52) = 5.17, p < 0.001, \eta^2 = 0.34. Interestingly, women evaluated all five decision scenarios as being more relational (i.e., involving of others) than men did, F(1, 51) = 11.04, p < 0.01, \eta^2 = 0.18.
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order), but this time participants were asked to indicate which of the two courses of action they would choose if they were facing that decision.5

Participants were also asked to rate the risk associated with each of the two possible courses of action on a ten-point Likert scale, ranging from ‘Not at all risky’ to ‘Extremely risky’, with the following instructions: ‘In general, most people see some risk in a decision alternative when there is uncertainty about its outcome and when there is the possibility of a “bad” outcome. Riskiness is a very personal and intuitive notion, and we are interested in your gut level notion of how risky each decision alternative is.’

We used Schwartz’s ‘Survey of Values’ (1994)6 to assess gender differences in what Schwartz calls ‘self-transcendence’ (‘Understanding, appreciation, tolerance, and protection for the welfare of all people—bothobjects’ and ‘Preservation and enhancement of the welfare of people with whom one is in frequent personal contact’, p. 89). The concept of self-transcendence appeared to be appropriate to verify if women in our sample were more relational than men, as previous research suggests.

EXPERIMENTAL DESIGN
The experimental design was entirely within-subjects. Each participant read all five scenarios in a counterbalanced order.

Results

CONTENT SPECIFICITY

Decision mode selection
To see whether respondents (women and men) reported a different likelihood of using each decision mode in the different decision situations, we conducted five repeated measures ANOVAs7 with the decision mode likelihood ratings as the dependent variables and the decision situation as the within-subjects factor. We found significant main effects of the decision situation on all five likelihood ratings: For authority/consultation, F(4, 364) = 122.83, η² = 0.57; compromise, F(4, 376) = 8.14, η² = 0.08; emotion, F(4, 376) = 8.07, η² = 0.08; rationality, F(3.39, 318.53) = 19.02, η² = 0.17; and for status quo, F(4, 372) = 26.55, η² = 0.18; p < 0.001 in all cases. Hence hypothesis H1a, that decision model use would change depending on the domain of the decision, was supported. The respondents’ mean likelihood of using each decision mode in each of the five decision situations is shown in Figure 1.

5 This order of presentation seemed to be the most logical, as we would suspect individuals would think about ways of resolving a decision dilemma before making the actual decision.
6 Initially, Epstein’s (1994) Rational/Experiential Inventory (short version) was used to assess gender differences in intuitive (experiential) and analytical (rational) thinking. However, as no such differences appeared, these variables were not considered further.
7 We verified the statistical assumptions required of within-subjects designs and used a Greenhouse–Geisser correction when the sphericity assumption was violated. Whenever other assumptions of parametric tests were violated (e.g., normality), we conducted equivalent non-parametric tests and obtained similar results.
Using planned comparisons, we tested hypothesis H1b that respondents would report being more likely to use the compromise mode for decisions with a strong social/relational component (i.e., the break up, car purchase, and birth control decisions), and found partial support. Respondents were significantly more likely to use the compromise mode for the car purchase decision ($M = 3.96$, $SD = 1.08$) versus for the other four situations ($M = 3.22$, $SD = 1.24$), $t(94) = 5.58$, $p < 0.001$, $\eta^2 = 0.25$. However, respondents were not more likely to report use of the compromise mode for the break up and the birth control decisions than they were in the graduate school and paper decisions.

Figure 1 shows some other interesting post-hoc findings. When making the car purchase decision, respondents were more likely to use the compromise mode ($M = 3.98$, $SD = 1.08$) versus the other four modes ($M = 2.59$, $SD = 1.17$), $t(94) = 10.45$, $p < 0.001$, $\eta^2 = 0.54$. For the birth control decision, on the other hand, respondents were more likely to use the rational and authority modes ($M = 4.04$, $SD = 1.17$) versus the other three modes ($M = 3.15$, $SD = 1.34$), $t(95) = 7.37$, $p < 0.001$, $\eta^2 = 0.36$. This result makes some sense, as health decisions often require consideration of scientific evidence and advice from medical experts.

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*We corrected for planned comparisons using a modified Bonferroni procedure (Keppel, 1991, 169) to maintain a family-wise alpha level of 0.10.

*Post-hoc tests used Bonferroni corrections.*
Domain-specificity and gender differences

Risk perception

For each decision, we classified one course of action as the 'riskier' option and the other as the 'safer' option, based on respondents' mean ratings of risk shown in Table 1. For two decisions (the break up and graduate school decisions), the riskiness ratings of the two choice options did not differ significantly, and these two scenarios were not included in subsequent analyses.

As predicted by hypothesis H2 and not very surprisingly, we found a significant main effect of decision domain on the risk perception ratings for the riskier options, \( F(2, 180) = 79.13, \, p < 0.001, \, \eta^2 = 0.47 \), in a repeated measures ANOVA. Our respondents perceived the riskier option 'Copy the paper' in the paper decision as being relatively riskier than the riskier options associated with the car purchase and birth control decisions \( (M = 8.87, \, SD = 1.41, \, and \, M = 6.04, \, SD = 2.25, \) respectively), \( t(90) = 13.95, \, p < 0.001, \, \eta^2 = 0.68 \).

Also consistent with H2, we found a significant main effect of decision on the risk perception ratings for the safer options, \( F(1.83, 162.63) = 43.35, \, p < 0.001, \, \eta^2 = 0.33 \). Our respondents perceived the safer option 'Take the pill' in the birth control decision as being riskier than the safer options associated with the car purchase and paper decisions \( (M = 4.43, \, SD = 2.40, \, and \, M = 2.42, \, SD = 1.53, \) respectively), \( t(89) = 8.23, \, p < 0.001, \, \eta^2 = 0.43 \).

Risk behavior

To analyze the effect of decision content domain on risk behavior, we categorized people's choice (used as a proxy for risk behavior). For each decision, we coded whether the respondent chose the option perceived to be riskier or the option perceived to be safer by our entire sample.\(^{10}\) This classification scheme distinguishes.

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\(^{10}\)We excluded the break up and graduate school decisions from subsequent analyses as there were no significant differences between the mean risk perception ratings associated with each option.

---

**Table 1. Risk perception ratings for riskier/safer options**

<table>
<thead>
<tr>
<th>Decision</th>
<th>Options</th>
<th>Women M</th>
<th>Women SD</th>
<th>Men M</th>
<th>Men SD</th>
<th>Overall M</th>
<th>Overall SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break up</td>
<td>Break up</td>
<td>5.77</td>
<td>2.12</td>
<td>5.85</td>
<td>2.51</td>
<td>5.83(_a)</td>
<td>2.32</td>
</tr>
<tr>
<td></td>
<td>Not break up</td>
<td>5.77</td>
<td>2.60</td>
<td>6.28</td>
<td>2.41</td>
<td>6.08(_a)</td>
<td>2.46</td>
</tr>
<tr>
<td>Car purchase</td>
<td>Choose the red convertible</td>
<td>5.76</td>
<td>1.96</td>
<td>6.29</td>
<td>2.27</td>
<td>6.07(_a)</td>
<td>2.05</td>
</tr>
<tr>
<td></td>
<td>Choose the conservative car</td>
<td>2.77</td>
<td>1.48</td>
<td>2.29</td>
<td>1.16</td>
<td>2.54(_b)</td>
<td>1.34</td>
</tr>
<tr>
<td>Graduate school</td>
<td>Go back to school</td>
<td>3.83</td>
<td>2.08</td>
<td>4.69</td>
<td>2.08</td>
<td>4.30(_a)</td>
<td>2.12</td>
</tr>
<tr>
<td></td>
<td>Not go back</td>
<td>5.35</td>
<td>2.75</td>
<td>4.21</td>
<td>2.50</td>
<td>4.77(_a)</td>
<td>2.69</td>
</tr>
<tr>
<td>Paper</td>
<td>Copy the paper</td>
<td>8.83</td>
<td>1.47</td>
<td>8.93</td>
<td>1.36</td>
<td>8.85(_a)</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td>Not copy the paper</td>
<td>2.19</td>
<td>1.54</td>
<td>2.39</td>
<td>1.83</td>
<td>2.30(_b)</td>
<td>1.71</td>
</tr>
<tr>
<td>Birth control</td>
<td>Choose another method</td>
<td>6.15</td>
<td>2.42</td>
<td>5.87</td>
<td>2.28</td>
<td>6.01(_a)</td>
<td>2.34</td>
</tr>
<tr>
<td></td>
<td>Choose the pill</td>
<td>4.29</td>
<td>2.40</td>
<td>4.54</td>
<td>2.39</td>
<td>4.47(_b)</td>
<td>2.39</td>
</tr>
</tbody>
</table>

Note: Sample sizes vary from 45 to 48 (for women and men) and from 87 to 93 (overall). In the last column, means with different subscripts differ significantly at \( p < 0.05 \) using a modified Bonferroni correction.
ing between riskier or safer choices on the basis of majority ratings of the riskiness of choice options comes close to the EU classification of people as risk averse if they choose the lower-variance option of an (equal EV) pair of alternatives and as risk seeking if they choose the higher-variance option.

As shown in Table 2, the majority of respondents (78 and 65 out of 96 respondents, or 81 per cent and 67 per cent, respectively) chose the safer option for both the paper and birth control decisions, \( \chi^2(1, 96) = 37.50, p < 0.001 \), and \( \chi^2(1, 96) = 12.04, p = 0.001 \). Nearly equal numbers of participants chose the riskier and the safer options for the car purchase decision (50 and 46 out of 96 respondents, or 52 per cent and 48 per cent). These proportions provide some support for hypothesis H3 that risky choice differed as a function of the domain of the decision (Cochran Q(2, 96) = 22.85, \( p < 0.001 \)).

When risky choice patterns were analyzed at the individual level across decisions, 26 per cent of the respondents chose the safer option in all three decisions, only 3 per cent consistently chose the riskier option, and 71 per cent chose either the safer or the riskier option, depending on the decision. These choice proportions, thus providing support to hypothesis H3 about the content specificity of risk behavior.

**Perceived-risk attitude**

Next we examined risk preference within a risk-return framework. That is, we coded for each decision whether a respondent chose the option that he or she personally considered to be riskier or safer. When an individual's risk perception ratings of the two options did not differ, choice of either option was classified as perceived-risk neutral. As shown in Table 3, the majority of respondents were perceived-risk averse in all five decisions. Contrary to hypothesis H4, there was a main effect of decision content domain on perceived-risk attitude (Cochran Q(4, 40) = 17.98, \( p < 0.001 \), which tested whether the domain of a decision had an effect on perceived-risk seeking vs. perceived-risk averse choice behaviors).

**Gender Differences**

**Decision Mode Selection**

We first examined hypothesis H5a that women would be more likely than men to use the compromise decision mode when making decisions with a strong social/relational component. Planned comparisons yielded no such gender difference.

<table>
<thead>
<tr>
<th>Table 2. Respondents' choice of the riskier/safer option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision</strong></td>
</tr>
<tr>
<td><strong>Frequencies</strong></td>
</tr>
<tr>
<td><strong>Women</strong></td>
</tr>
<tr>
<td>(n = 48)</td>
</tr>
<tr>
<td><strong>Men</strong></td>
</tr>
<tr>
<td>(n = 48)</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
</tr>
<tr>
<td>(n = 96)</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Car purchase</td>
</tr>
<tr>
<td>Choose the red convertible</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>Choose the conservative car</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>46</td>
</tr>
<tr>
<td>Paper</td>
</tr>
<tr>
<td>Copy the paper</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>18</td>
</tr>
<tr>
<td>Not copy the paper</td>
</tr>
<tr>
<td>41</td>
</tr>
<tr>
<td>37</td>
</tr>
<tr>
<td>78</td>
</tr>
<tr>
<td>Birth control</td>
</tr>
<tr>
<td>Choose another method</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>17</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>Choose the pill</td>
</tr>
<tr>
<td>34</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>65</td>
</tr>
</tbody>
</table>
Table 3. Percentage of perceived-risk seeking, averse, and neutral respondents

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRS</td>
</tr>
<tr>
<td>Break up</td>
<td>20</td>
</tr>
<tr>
<td>Car purchase</td>
<td>47</td>
</tr>
<tr>
<td>Graduate school</td>
<td>45</td>
</tr>
<tr>
<td>Paper</td>
<td>16</td>
</tr>
<tr>
<td>Birth control</td>
<td>17</td>
</tr>
</tbody>
</table>

Note: PRS = perceived-risk seeking, PRA = perceived-risk averse, and PRN = perceived-risk neutral. Sample sizes vary from 87 to 93.

There was, however, an unexpected significant decision-by-gender interaction, $F(3.38, 314.72) = 5.21$, $p = 0.001$, $\eta^2 = 0.05$. Women ($M = 3.65, SD = 1.08$) were significantly more likely than men ($M = 2.60, SD = 1.38$) to report the use of the rational decision mode for the car purchase decision, $t(88.93) = 4.12$, $p < 0.001$, $\eta^2 = 0.15$. The means for the compromise and rational decision mode likelihood ratings\(^{11}\) are reported in Table 4.

We looked for gender differences in self-transcendence and found that, as predicted, women ($M = 53.11, SD = 6.09$) scored significantly higher on that trait than men ($M = 47.15, SD = 6.75$), $t(91) = 4.47$, $p < 0.001$, $\eta^2 = 0.18$. Figure 2 shows the result of a mediational analysis\(^{12}\) (Baron and Kenny, 1986), which indicated that self-transcendence partially mediated the significant gender difference in decision mode usage, thus supporting hypothesis H9b.

Risk perception

Using a planned comparison, we tested hypothesis H6 that women perceived the risky option associated with decisions with a strong social/relational component (i.e., the car purchase and birth control decisions) as being safer than men did. Our hypothesis was not supported, as no significant differences emerged between the two groups (means are reported in Table 1).

For the graduate school decision, even though there was no significant overall difference in perceived risk between the options 'Go back to graduate school' and

\(^{11}\) Even though the rational decision mode was presented as the individual's evaluation of the attributes/pros and cons of each decision alternative, women may have a tendency to perceive it as an evaluation of the attributes/pros and cons from the perspective of both partners or of the couple as a unit, thus confounding the rational and the compromise modes, as one reviewer suggested. We may not have put enough emphasis on the personal utility aspect of the rational mode.

\(^{12}\) This procedure necessitates four steps: (a) There must be an effect of the initial variable on the outcome (path C); (b) The initial variable must be correlated with the mediator (path A); (c) The mediator must affect the outcome (path B), with the initial variable controlled for; and (d) The effect of the initial variable on the outcome, when the mediator is added to the regression equation (path C'), should be reduced (partial mediation) or become non-significant (complete mediation).
Table 4. Mean compromise and rational likehood ratings

<table>
<thead>
<tr>
<th>Decision</th>
<th>Women (n = 48)</th>
<th>Men (n = 48)</th>
<th>Overall (n = 96)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Break up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>3.38</td>
<td>1.39</td>
<td>3.29</td>
</tr>
<tr>
<td>Rational</td>
<td>3.79</td>
<td>1.24</td>
<td>3.33</td>
</tr>
<tr>
<td>Car purchase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>4.10</td>
<td>1.06</td>
<td>3.83</td>
</tr>
<tr>
<td>Rational</td>
<td>3.65*</td>
<td>1.08</td>
<td>2.60</td>
</tr>
<tr>
<td>Graduate school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>3.13</td>
<td>1.12</td>
<td>3.04</td>
</tr>
<tr>
<td>Rational</td>
<td>3.98</td>
<td>1.18</td>
<td>4.02</td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>3.13</td>
<td>1.41</td>
<td>3.31</td>
</tr>
<tr>
<td>Rational</td>
<td>3.26</td>
<td>1.45</td>
<td>3.23</td>
</tr>
<tr>
<td>Birth control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>3.08</td>
<td>1.29</td>
<td>3.42</td>
</tr>
<tr>
<td>Rational</td>
<td>4.08</td>
<td>1.22</td>
<td>4.04</td>
</tr>
</tbody>
</table>

Note: * Mean ratings between women and men differ at $p < 0.05$ using a Bonferroni correction.

Figure 2. Self-transcendence as a mediator in the relationship between gender and rational decision mode usage for the car purchase situation. Self-transc. means self-transcendence. Values reported are unstandardized regression coefficients. Asterisks denote significance levels ($*** p < 0.001$, **$p < 0.01$, *$p < 0.05$)
Domain-specificity and gender differences

'Not go back to graduate school', there were differences when the data were analyzed by gender. Women perceived the risk associated with the second option \( (M = 5.35, SD = 2.75) \) to be significantly higher than the risk attached to the first option \( (M = 3.83, SD = 2.08) \), \( t(44) = 2.66, p = 0.01 \). The reverse was found for men \( (M = 4.21 \text{ and } 4.69, \text{ and } SD = 2.50 \text{ and } 2.08 \text{ respectively}) \), but this trend was not significant.

Risk behavior

A comparison of the number of women and men choosing the riskier/safer option (as determined by majority opinion) for the car purchase, paper, and birth control decisions (also shown in Table 2) yielded no significant gender differences. That is, hypothesis H7 that more women than men would choose the risky option when making decisions with a strong social/relational component (i.e., in the car purchase and birth control decisions) was not supported. On the other hand, for the graduate school decision, significantly more women than men chose the option that their own gender group perceived as being safer (47 out of 48 for women, vs. 4 out of 48 for men, Fisher's exact test, \( p < 0.001 \)).

Perceived-risk attitude

To examine the effects of gender on perceived-risk attitude, we analyzed the frequencies with which women versus men chose the option they considered to be riskier/safer within each decision situation. The results in Table 5 show general support for hypothesis H8. For four out of the five decision situations (and across decision situations), the distribution of perceived-risk attitudes did not significantly differ for men versus women. A gender difference existed only for the graduate school decision, where 62% of the males but only 27% of the females respondents were perceived-risk seeking \( (\chi^2(2, 92) = 11.47, p < 0.001) \). The majority of respondents of both genders actually chose the same option ('Go back to grad school'), but men perceived this option to be the riskier of the two, while women perceived it to be the safer option. This result clearly shows the importance of

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Percentage of respondents</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td></td>
<td></td>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PRS</td>
<td>PRA</td>
<td>PRN</td>
<td>PRS</td>
<td>PRA</td>
<td>PRN</td>
</tr>
<tr>
<td>Break up</td>
<td>15</td>
<td>44</td>
<td>41</td>
<td>24</td>
<td>56</td>
<td>20</td>
</tr>
<tr>
<td>Car purchase</td>
<td>46</td>
<td>46</td>
<td>8</td>
<td>49</td>
<td>47</td>
<td>4</td>
</tr>
<tr>
<td>Graduate school</td>
<td>27</td>
<td>66</td>
<td>7</td>
<td>62</td>
<td>34</td>
<td>4</td>
</tr>
<tr>
<td>Paper</td>
<td>14</td>
<td>84</td>
<td>2</td>
<td>19</td>
<td>81</td>
<td>0</td>
</tr>
<tr>
<td>Birth control</td>
<td>20</td>
<td>52</td>
<td>28</td>
<td>15</td>
<td>55</td>
<td>30</td>
</tr>
</tbody>
</table>

Note: PRS = perceived-risk seeking, PRA = perceived-risk averse, and PRN = perceived-risk neutral. Sample sizes vary from 42 to 47.
factoring risk perception out of risk behavior, because otherwise wrong conclusions about the presence or absence of differences in risk preference might be drawn.

Discussion

In light of the results of our study, we can now revisit the starting premise of this paper that models of decision making ought to incorporate characteristics of the situation and of the decision maker as predictor variables in order to improve their predictive ability. Table 6 summarizes our results regarding the effect of decision content, the effect of gender, and their interaction on (a) decision mode selection and (b) risk perception, risk behavior, and perceived-risk attitude.

Consistent with previous results by Goldstein and Weber (1997), we found evidence of content-dependence in decision mode selection, though this finding was moderated by gender in only one case. However, the gender difference in decision-mode usage that we identified was, at least partially, mediated by a gender difference in self-transcendence. This provides additional support to the hypothesis that women may, especially in some situations, consider and place more weight on others' opinions and feelings than men. As a result, women may work their way through such a decision by choosing decision modes that are more inclusive or 'rational', in the sense of incorporating more information or perspectives. Weber, Böckenholt, Hilton, and Wallace (2000), for example, found more complex and systematic information processing on the part of female versus male doctors, who were providing medical diagnoses.

Another possibility, suggested by Weber (1998), is that differences in decision mode selection may be mediated by the prominence of different needs and thus goals, as a function of the content domain of a decision. For example, financial decisions remind people of their needs for material goods and personal prosperity, while social decisions remind them of their needs for affiliation and connection. Different needs, in turn, may be better achieved by different ways or modes of making the decision. Making a decision by conforming to the expectations of a social role (e.g., as a parent or as a physician), for example, reinforces and confirms that social role and provides connection and affiliation. Any situational and/or gender differences in needs and goals thus would translate into differences in decision mode usage.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Effect</th>
<th>Decision content</th>
<th>Gender</th>
<th>Content X gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision mode</td>
<td>*</td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Risk perception</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk behavior</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived-risk attitude</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: An asterisk means the independent variable (or the interaction) had an effect on the dependent variable.
So why, then, did we fail to find the hypothesized cross-situational and gender differences in use of the compromise mode? One possibility is that our scenarios did not trigger relational considerations in the way we hypothesized, even though a post-hoc study (discussed in footnote 4) suggested otherwise. Another possibility is related to the finding reported by Johnson and Powell (1994) that more recent studies of business decision making have documented fewer gender differences in roles and values. Moreover, women and men in student samples may differ less (though this was not the case though for self-transcendence, on which women and men did differ), because the socialization of girls and boys has become more similar over the years.

In any case, knowing more about the processes underlying content dependence in decision mode usage is an issue with important policy implications, because the way people resolve a decision (i.e., the decision mode they choose) may as well determine the outcome of the decision, as hypothesized by Weber, Tada, and Blais (1998). Post-hoc analyses of our data, did indeed show a relationship between decision mode usage (compromise and authority/consultation) and risk behavior. Future research should and needs to address the situational determinants of decision mode selection in more detail.

What did we learn concerning risk perception, behavior, and preference? Our study demonstrates again the importance of making a distinction between risk taking (the overt behavior) and risk preference (the implicit attitude towards perceived-risk). Our conclusions differed when we analyzed risk taking as a function of the majority definition of which option was riskier and safer than when we analyzed it as a function of which option the decision maker him- or herself perceived to be riskier and safer. In at least one decision dilemma (the graduate school decision), those differences interacted with gender.

Contrary to our hypothesis that perceived-risk attitude would be invariant across content domains, with apparent differences in risk taking being the result of content-specific differences in risk perception (Weber, 1999), we found that perceived-risk attitudes were less perceived-risk averse in one decision scenario (car purchase) for both men and women and in one scenario (graduate school) for our male respondents. One possible explanation for the observed situational differences is that perceived-risk attitude, as assessed in this and other studies, corresponds to what Sitkin and Pablo (1992) call risk propensity rather than to risk preference. In their model, risk propensity is affected by variables (such as outcome history) that can vary across situations. In our case, the variable that differed across situations, possibly affecting both perceived riskiness and perceived-risk attitude might have been familiarity with the decision. That is, less familiarity with the decision of buying a car and (for the men) whether or not to go to graduate school may have affected perceived-risk attitude.

In a series of logistic regression analyses, we assessed the effect of decision mode usage on risk behavior, i.e., on respondents' choice of the option judged riskier by the majority of respondents. For the car purchase decision, the use of the compromise ("I try to find a compromise") and authority/consultation ("I let my spouse decide") modes were significant predictors of choice (\( \beta = -0.67 \) and \( \beta = -0.78; \ p < 0.01, R^2 = 0.22 \)). For the paper decision, reliance on authority/consultation ("I follow my friend's advice") was, not surprisingly, a significant predictor of risky choice (\( \beta = 1.20, \ p < 0.001, R^2 = 0.24 \)).
Finally, our results show that, while it may appear that women are more risk averse in some content domains, this may sometimes be the result of a gender difference in risk perception (i.e., a perception of greater risk) rather than the result of a more conservative attitude towards risk. As mentioned in our introduction, this distinction is essential if one desires to change a person's or group's apparent level of risk taking. What our results suggest is that interventions geared at the cognitive or affective components of risk perception rather than perceived-risk attitude will be more successful in changing the decision behavior of women or of any other group that we believe to be too conservative or too risky.

Appendix

1. You have been working for two years after getting your undergraduate degree. Your job is interesting and well paid. However, you feel that you will have to get a graduate degree in order to move up in the company. You are wondering if you should: Go back to graduate school or Not go back to graduate school.

2. You have been in a relationship for a long time, and you have lived with that person for a while now. However, you feel more and more dissatisfied, and you think it might be the right time to break up. Your boyfriend/girlfriend is still in love. You are wondering if you should: Break up or Not break up.

3. You have frequent sexual relationships with your partner, and you must choose one form of birth control. Both of you know that the pill is one of the most efficient methods, but on the other hand, you don’t like the idea of taking (or having your partner take) a chemical product. You are wondering if you should: Choose another method than the pill or Take the pill (or suggest that your partner take it).

4. Imagine you finally got enough money to buy your first new car. You have dreamed of a sport car for a long time: a red convertible. On the other hand, your spouse would prefer to get a more conservative car, safe and comfortable. You are wondering if you should: Choose the red convertible or Choose the safe and comfortable car.

5. You are taking a class that one of your friends took two years ago. You have to write a 20-page paper, but you are overwhelmed by work. Your friend gives you his/her paper, and suggests that you just copy it.

Five decision modes were presented with each dilemma. The wording differed very slightly, to make the options fit with each dilemma. For example, the decision modes for the paper decision were worded as follow: You are wondering if you should: Copy the paper or Not copy the paper.

(a) I go with my feelings (emotion mode)
(b) I follow my friend’s advice (authority/consultation mode)
(c) I weigh the pros and cons of the situation (rational mode)
(d) I postpone the decision (status quo mode)
(e) I try to find a compromise (compromise mode)
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