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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:
Selart, M., & Eek, D. (2005). Is there a pro-self component behind the prominence effect? Individual resource allocation decisions with communities as potential beneficiaries. *International Journal of Psychology*, *40*(6), 429-440. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-400022

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gesis Leibniz-Institut für Sozialwissenschaften

Mitglied der Leibniz-Gemeinschaft

INTERNATIONAL JOURNAL OF PSYCHOLOGY, 2005, 40 (6), 429–440

Psychology Press
Taylor & Francis Group

Is there a pro-self component behind the prominence effect? Individual resource allocation decisions with communities as potential beneficiaries

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An important problem for decision-makers in society deals with the efficient and equitable allocation of scarce resources to individuals and groups. The significance of this problem is rapidly growing since there is a rising demand for scarce resources all over the world. Such resource dilemmas belong to a conceptually broader class of situations known as social dilemmas. In this type of dilemma, individual choices that appear ''rational'' often result in suboptimal group outcomes. In this article we study how people make monetary allocation decisions between the community where they live and a neighbouring community, with the aim of finding out to what extent these decisions are subject to biased over-weighting. The manuscript reports four experiments that deal with the way individuals make such allocation decisions when the potential beneficiaries are such communities. The specific goal of these experiments is to gauge the amount of bias in the weights that people assign to the various beneficiaries. Taken together, the results from all the four experiments suggest that making the gain of the neighbouring community prominent to a higher extent de-biases the outcomes (the prominence effect) compared to when own community gain is made prominent. Place identity is discussed as a potentially important factor in this connection. Hence, it may be argued that there seems to be some kind of a pro-self component that is able to explain a large part of the variance observed for the prominence effect. Connections between such a factor and in-group favouritism are discussed. A strength of the study was that these major results appeared to be quite robust when considered as task effects, as the salience of the manipulated context factors in the studies (in terms of reliable main or interaction effects) did not distort them.

Un problème important pour les décideurs dans la société concerne la répartition efficace et équitable des rares ressources disponibles pour les individus et les groupes. L'ampleur de ce problème se développe rapidement depuis qu'il y a une demande croissante pour le petit nombre de ressources tout autour du monde. De tels dilemmes de ressources appartiennent à une classe conceptuellement plus large de situations connues comme les dilemmes sociaux. Dans ce type de dilemmes, les choix individuels qui apparaissent «rationnels» résultent souvent en des conséquences de groupe sous-optimales. Dans cet article, nous étudions comment les gens prennent des décisions de répartition monétaire entre la communauté où ils vivent et la communauté voisine. Le but est de faire ressortir dans quelles mesures ces décisions sont sujettes à un biais de surpoids. Le manuscrit rapporte quatre expériences se référant à la façon dont les individus prennent de telles décisions de répartition quand les bénéficiaires potentiels sont de ces communautés. Le but spécifique de ces expériences est de mesurer la quantité de biais dans le poids accordé par les gens aux divers bénéficiaires. Dans l'ensemble, les résultats des quatre expériences suggèrent que le fait de mettre à l'avant-plan le profit de la communauté voisine réduit en grande partie les biais dans les conséquences (effet de saillance) comparativement à lorsque le profit de sa propre communauté est mis à l'avant-plan. L'identité du lieu est discutée comme facteur potentiellement important dans ce lien. À partir de là, il peut être avancé qu'il semble y avoir une sorte de composante de favoritisme envers soi-même qui pourrait expliquer une grande partie de la variance observée pour l'effet de saillance. Les liens entre ce

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This research was supported financially by grant F0652/96 to the first author from the Swedish Council for Research in the Humanities and Social Sciences and by grant 421-2001-4697 to the second author from the Swedish Research Council. The authors thank Anders Biel, Robyn Dawes, Tommy Gärling, Roland Scholz, and Kazuhisa Takemura for comments on a previous version of the paper.

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http://www.tandf.co.uk/journals/pp/00207594.html DOI: 10.1080/00207590544000103

facteur et le favoritisme envers l'endogroupe sont discutés. Une force de l'étude était que ces principaux résultats se montrent plutôt robustes lorsque considérés comme effets de la tâche, alors que la saillance des facteurs contextuels qui furent manipulés dans les études (en termes d'effets principaux ou d'interaction fiables) ne les a pas altérés.

Un problema importante para los decididores en la sociedad trata con la asignación eficiente y equitativa de los escasos recursos a individuos y a grupos. La importancia de este problema crece rápidamente debido a la creciente demanda de los escasos recursos en todo el mundo. Tales dilemas de asignación de recursos pertenecen a una clase de situaciones conceptualmente más amplia conocida como dilemas sociales. En este tipo de dilemas, las opciones individuales que parecen "racionales" a menudo resultan en desenlaces grupales subóptimos. Este artículo estudia cómo la gente toma decisiones sobre asignaciones monetarias entre la comunidad en la que viven y una comunidad vecina, con el propósito de determinar en qué medida estas decisiones están sujetas a sesgo. El manuscrito presenta cuatro experimentos que se refieren a la forma en que los individuos toman tales desiciones sobre asignación de recursos cuando los beneficiarios potenciales son esas comunidades. La meta específica de estos experimentos es calcular la cantidad de sesgo en el peso que la gente asigna a varios beneficiarios. En conjunto, los resultados de los cuatro experimentos sugieren que al hacer prominente la ganancia de la comunidad vecina reduce en mayor medida el sesgo en los resultados (efecto de prominencia) comparado con que la ganancia de la propia comunidad sea la que se haga prominente. La identidad de lugar se discute como un factor potencialmente importante a este respecto. Por lo tanto, podría alegarse que parece haber algún tipo de componente en favor de sí mismo que podría explicar gran parte de la varianza observada para el efecto de prominencia. Se discuten las conexiones entre tal factor y el favoritismo intra grupo. Una fortaleza de este estudio es que estos resultados principales son al parecer bastante robustos, considerados como efectos de la tarea, pues la prominencia de los factores contextuales manipulados en los estudios (en términos de efectos principales o de interacción fiables) no los distorsionaron.

An important problem for decision-makers in society deals with the efficient and equitable allocation of scarce resources to individuals and groups (Leventhal, 1976; Samuelson, 1993). The significance of this problem is rapidly growing since there is a rising demand for scarce resources all over the world. This fact was pinpointed in Hardin's (1968) classic article entitled *The tragedy of the commons*, in which he suggested that there is a dilemma inherent in the management and organization of common pool natural resources (see also Messick & Brewer, 1983).

Such resource dilemmas, where people choose between acting selfishly or collectively, belong to a conceptually broader class of situations known as social dilemmas (Dawes, 1980). A social dilemma incorporates the following two features: (a) each group member has an individual incentive to make a self-interested choice since the monetary payoff to each individual is higher for such a choice, regardless of the others' choices; (b) when all members make these "rational" choices, the collective outcome is worse than if all members had made cooperative choices favouring the group interest. Thus, the monetary payoff for all individuals in the group is higher if all cooperate than if all defect (Messick & Brewer, 1983). In this vein, individual choices that appear "rational" often result in suboptimal group outcomes.

This article focuses on how people make monetary allocation decisions between the community where they live and a neighbouring community. The aim is to find out to what extent these decisions are subject to biased over-weighting. A major result of the study is that biased over-weighting plays an important role in resource allocation decisions, but that it operates differently depending on whether a "pro-self" or a "pro-other" dimension is manipulated.

THE ROLE OF PRO-SELF AND PRO-OTHER IN PREFERENCE CONSTRUCTION

According to previous research, the most important attribute of a decision situation generally looms larger in a variety of preference tasks than in a calibrating procedure (e.g., a matching task) (Fischer & Hawkins, 1993; Montgomery, Selart, Gärling, & Lindberg, 1994; Selart, 1996; Selart, Boe, & Gärling, 1999; Selart, Gärling, & Montgomery, 1998; Tversky, Sattath, & Slovic, 1988). Despite having made two alternatives equally attractive through the calibrating matching procedure, people, when asked to choose the one alternative that they prefer most, do not make random choices. Instead, research indicates that people systematically opt for the alternative with the highest value on the prominent attribute. This phenomenon has been labelled the *prominence*

effect, and it has been found to have a bearing on aspects of environmental valuation (Kahneman & Tversky, 2000). For instance, Kahneman and Ritov (1994) showed that prominence effects leading to preference reversals between choices and monetary values are present in environmental interventions.

In the present research it is assumed that these effects may also be present in resource allocation decisions. For instance, it could be argued that both pro-self and pro-other could play a part in a resource allocation task. If the maximization of own community gain in a resource allocation task is made salient, it would appeal to people's in-group social identity. People should accordingly opt for an alternative that maximizes their own community gain (pro-self alternative). If, on the other hand, the maximization of neighbouring community gain is made salient, people should opt for an option that maximizes the joint gain of the own community and the neighbouring one (joint alternative). Thus, they should not opt for an alternative that maximizes the neighbouring community gain only (pro-other alternative).

From a practical point of view, this implies that if administrators in a region want to stimulate cooperative behaviour in Community A, they should highlight the needs of neighbouring Community B, making its share of the resource allocation the prominent attribute. This will most probably have a de-biasing impact on the prominence effect in the sense that Community A citizens will apply more compensatory decision strategies that allow for trade-offs to be made between the attributes (what Community A and B will receive).

THE IMPORTANCE OF THE EQUALITY HEURISTIC IN RESOURCE ALLOCATIONS

The equality norm prescribes that a resource should be equally allocated to all its legitimate members (Deutsch, 1975; Sampson, 1975). This principle is widely used in situations where cooperation and harmony within the group are the major goals. Resource allocation decisions constitute such a situation in several ways. Here, people usually make their decisions based on some notion of the idea of equality (Messick, 1993, 1995). Recently, Roch, Lane, Samuelson, Allison, and Dent (2000) also established that members of groups sharing resources first anchor their consumption choices on an "equal-division" heuristic and then adjust their choices in a self-serving direction. A necessary condition for this adjustment was sufficiency of cognitive capacity. It has been demonstrated that whether or not the amount of a resource is (easily) divisible with the number of share takers is a factor that influences the application of equality (Allison & Messick, 1990). Hence, the use of the equality heuristics may be a factor with the potential of distorting the prominence effect in resource allocation tasks.

THE ROLE OF IDENTITY AS A DRIVER IN RESOURCE ALLOCATION DECISIONS

It has been observed that within- and between-group communication has an important impact on how people behave in resource dilemmas (Bornstein, Rapoport, Kerpel, & Katz, 1989). Moreover, it has been observed in resource dilemma studies (see e.g., Brewer & Kramer, 1986; Kramer & Brewer, 1984) that group member categorization in terms of membership in smaller as compared to larger social units results in social identity effects. Similarly, previous research reveals that between-groups comparisons result in a general tendency to evaluate one's own membership group (in-group) more positively than any nonmembership group (out-group) (Hewstone, Rubin, & Willis, 2002). This tendency is generally referred to as *in-group favouritism* or *in-group bias* (Brewer, 1999, 2001; Otten & Mummendey, 2000). It is argued that in-group social identity may be the major reason as to why people in some resource allocation contexts tend to favour their own community over a neighbouring community.

Recently, there has also been a debate on whether core concepts in environmental psychology such as, for instance, place identity may play a role in resource dilemmas (e.g., Bonaiuto, Carrus, Martorella, & Bonnes, 2002; Fried, 2000; Giuliani, 2002). In this research, the concept of place identity is used to encompass both social and physical environments. It has, for instance, been revealed that the notion of place, in people's general opinion, to a great extent refers to any combination of regional communities (Cuba & Hummon, 1993). Therefore, it is argued that there is some evidence supporting the idea that the driving force behind joint community gain may be derived from place identity. The concept of "place identity" may therefore be interpreted as a special form of social identity in which both social and physical dimensions play a part. The circle of what is to be defined as the *in-group* may thus be widened (see Cuba & Hummon, 1993).

HYPOTHESES

Four experimental studies investigating whether or not the prominence effect is present in resource allocation decisions are reported. Generally, it is assumed that the prominence effect will be present in these types of decisions given that it has been proved to be present for more purely individualistic choices. It is also assumed that the effect will depend on whether a "pro-self" or a "pro-other" dimension is looming largest.

The following two hypotheses are tested in the present research:

- H1a. A prominence effect will be found in resource allocation decisions such that participants will prefer a matched alternative that maximizes the own gain when "own community gain" is manipulated to be the prominent attribute.

The reason underlying this hypothesis is that the prominence effect generally is assumed to be favoured by prominent "self-interest attributes" and not by prominent "other-interest attributes".

On the contrary, it is not assumed that participants will prefer a pro-other alternative that maximizes neighbouring community gain (altruism) when "neighbouring community gain" is made the prominent attribute. It is therefore hypothesized that:

- H1b. Participants will prefer an alternative that maximizes the joint gain of the own community and a neighbouring community when neighbouring community gain is made the prominent attribute.

STUDY 1

H1a was tested in Study 1. Thus, it was assumed that participants systematically should opt for the alternative that maximizes own community gain, when this attribute is made salient, even though that alternative has been matched by other participants to be equally attractive as a competing alternative that maximizes joint gain (own + neighbouring community gain). In order to understand the influence of framing factors on the prominence effect, attribute range was also manipulated. Still, this factor was not expected to distort the prominence effect.

Attribute range effects constitute an important class of framing effects that imply context manipulation. They have been proved to have an impact on judgment and decision-making tasks. As an example, it has been revealed that decision weights shift as a function of variance (Meyer & Eagle, 1982); attributes with greater variance receive more weights. Goldstein (1990) and Selart (1996) have also revealed that ratings of attribute importance and preferences are a function of attribute ranges. On the other hand, there are studies showing that decision weights do not depend on the variation of scores (Beattie & Baron, 1991). However, in Study 1 it was assumed that the introduction of a framing manipulation of the type described would not affect the prominence effect. The reason is that context effects generally are considered to be less influential than task effects (Payne, Bettman, & Johnson, 1993). The introduction of the factor may therefore be regarded as a way of testing the robustness of the model. Hence, it provides for a sensitivity test of the hypotheses, which is standard procedure in decision analysis.

Method

Participants. Seventy-two undergraduate students (36 men and 36 women) at Göteborg University participated in the study and were paid SEK 50 (approximately US$5.5) for their participation. Participants predominantly lived in the Greater Göteborg area, Sweden. Half of them were undergraduates in psychology and the other half were undergraduates in economics.

Experimental design. Participants were randomly assigned to one of the conditions of a 3 (response procedure: choice, preference rating, rank ordering) $\times$ 2 (alternative: own community vs joint community) $\times$ 2 (attribute range: wide vs narrow) factorial design, where gender and type of student population were balanced.

Participants were initially instructed to indicate their preferences for resource allocation alternatives in 16 tasks. The order of the tasks was counterbalanced. Based on a real-life initiative that took place in Swedish politics in the mid 1990s (the so-called "Persson plan," named after Prime Minister Göran Persson), each decision task was described by the following two attributes: (1) how much money the own community received in financial support for environmental protection from the government, and (2) how much money a neighbouring community received from the government for the same purpose (see also Kemp, 1998, 2003; Kemp & Burt, 2001; Kemp &

Willetts, 1995, for reviews of people's valuation of government-funded services).

In all tasks, own community gain was manipulated as the prominent attribute. Thus, participants were informed that the own community deserved priority over the neighbouring community due to either need or performance, respectively, in the two conditions.

Building on the previous introduction of attribute range effects as potential threats to the hypotheses, two different versions of attribute range were introduced. In one condition, the range between the attribute levels of the prominent attribute was narrow, and for the other it was wide. In the narrow condition, the differences between the attribute levels were hence very low, whereas they were high in the wide condition.

Response procedure. Study 1 also manipulated response procedure on three levels; choice, preference ratings, and rank orders. This factor was treated as a measure of control since previous research has revealed that elicitation form has practically no effect on the prominence effect (Selart, 1996). Response mode was manipulated between subjects.

Four alternative allocations were consistently applied: *own community gain* maximized the individual gain; *joint community gain* maximized the common gain of self and other; *equality* allocated the resource equally between self and other; and *pro-other* maximized the gain of the other. Prior to this study, two of the allocations (own community gain and joint community gain) had, in another study, using other undergraduates as participants, been matched to appear equally attractive. In this matching study, one missing attribute level was to be filled in by the participant (see Tversky et al., 1988). The participants' task was to provide the missing value so that they perceived the options to be as equally attractive. They were informed that the value provided had to be higher (lower) than the value of the other option on the same attribute. In this way the constructed options that were based on the matching experiments provided some form of normative benchmark. A control group was therefore unnecessary.

The remaining two allocations (equality and pro-other) were constructed on the basis of the matched data, that is, they were constructed in such a way that the sum of the objective attribute levels was systematically set at on the same average level.

A score of 1 was assigned to the alternative that was chosen, given the highest rating, or rank ordered as the most attractive in the different response procedures, respectively. The remaining three alternatives were assigned a score of 0. If more than one alternative received the same preference rating, the score of 1 was divided equally among the equally preferred alternatives (e.g., a score of 0.5 was assigned to two alternatives when they were equally preferred, and a score of 0 to the remaining two).

Results and discussion

A 3 (response procedure: choice vs preference ratings vs rank orders) $\times$ 2 (alternative: own community vs joint community gain) $\times$ 2 (attribute range: wide vs narrow) mixed ANOVA with repeated measures on the last two factors was performed. The analyses yielded the following effects: univariate $F(2, 68) = 0.13$, $p = .88$ for response mode; univariate $F(1, 68) = 5.03$, $p < .05$ for alternative; univariate $F(1, 68) = 6.67$, $p < .05$ for attribute range; univariate $F(1, 68) = 8.89$, $p < .01$ for the interaction between alternative and attribute range.

H1a. As indicated by the reliable main effect for alternative (see Figure 1 for an illustration), a prominence effect was observed, in that the own community alternative (the alternative with the highest value on the prominent attribute) generally was more frequently chosen or highly rated than the joint community alternative (the matched nonprominent alternative). There was also an unexpected reliable interaction between alternative and attribute range. This implies that attribute range, although considered a context factor, has an impact on the prominence effect. However, it does not distort it.

Manipulation check. The mean weight ratio obtained from the pilot matching-experiment ($n = 36$) was 2.18 (the difference between the attribute levels of the nonprominent attribute divided by the difference between the attribute levels of the prominent attribute), indicating that own community gain was perceived to be the prominent attribute.

STUDY 2

To replicate the finding from Study 1, the same experimental design was used in Study 2, except

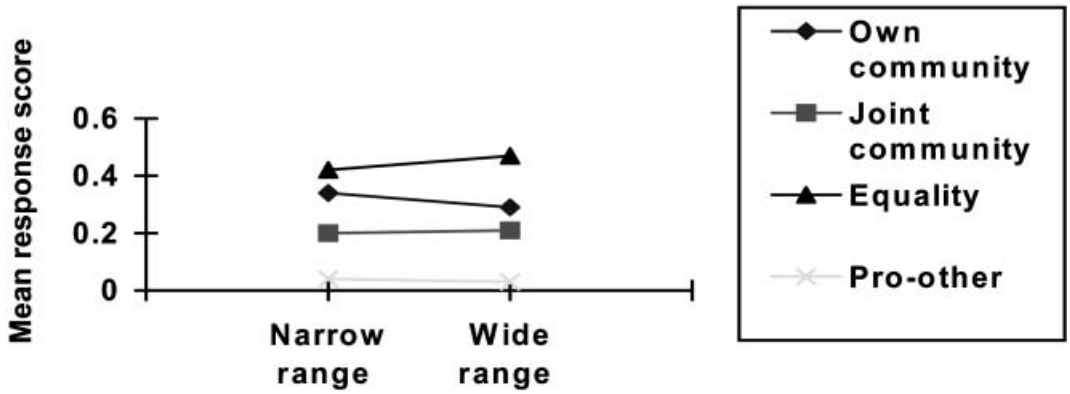

Figure 1. Mean response scores in Study 1 by alternative and control condition.

that another context factor was used. It was assumed that *H1a* should also be supported in Study 2. In the present study, the framing of gains (as a pure gain or as a loss reduction) was used. The substantial importance of framing was first established by Tversky and Kahneman (1981), who defined a decision frame as "the decision maker's conception of the acts, outcomes, and contingencies associated with a particular choice." They also suggested that decision frames are partly controlled by the formulation of the problem, and partly by the norms, habits, and characteristics of the decision maker. In addition, Schelling (1981) has revealed that the way in which alternatives are framed is of great importance for the acceptance of governmental tax laws. For instance, depending on the reference point, tax payments may be perceived as a reduced gain or as a loss (Chang, Nichols, & Schultz, 1987). A refund withholding may represent a gain, whereas a tax payment represents a loss (see also Kuhberger, 1998, for a review of the framing literature). However, as in Study 1, it was assumed that the introduction of a framing manipulation of the type described would not have a negative impact on the prominence effect. The reason for introducing the factor is once again to test the robustness/sensitivity of the model.

Method

Participants. Another 72 undergraduate students (36 men and 36 women), drawn from the same populations of psychology and economics undergraduates at Göteborg University as in Study 1, participated in the study and were paid SEK 50 for their participation.

Experimental design. The experimental design was the same as in Study 1, except that type of resource description was used as the context factor for the alternatives. In one version, the resource was framed as *"amount of money per year and inhabitant that the community receives from the government for environmental protection measures."* In the other version, the resource was framed as *"amount of money per year and inhabitant that the community receives from the government for reduction of taxes related to environmental issues."*

Based on the balancing of gender and type of student population, participants were randomly assigned to one of the six conditions of the 3 (response procedure) $\times$ 2 (alternative) $\times$ 2 (frame; reduction vs reception) factorial design.

The same scoring procedure of participants' responses was used as in Study 1.

Results and discussion

A 3 (response procedure: choice vs preference ratings vs rank orders) $\times$ 2 (alternative: own community vs joint community gain) $\times$ 2 (frame: reduction vs reception) mixed ANOVA with repeated measures on the last two factors was performed. The analyses yielded the following effects: univariate $F(2, 58) = 1.22$, $p = .30$ for response mode; univariate $F(1, 58) = 22.98$, $p < .0001$ for alternative; univariate $F(1, 58) = 0.68$, $p = .68$ for type of frame; univariate $F(1, 58) = 4.98$, $p < .05$ for the interaction between alternative and type of frame.

H1a. As indicated by the reliable main effects for alternative (see Figure 2 for an illustration), a prominence effect was once again observed, in that

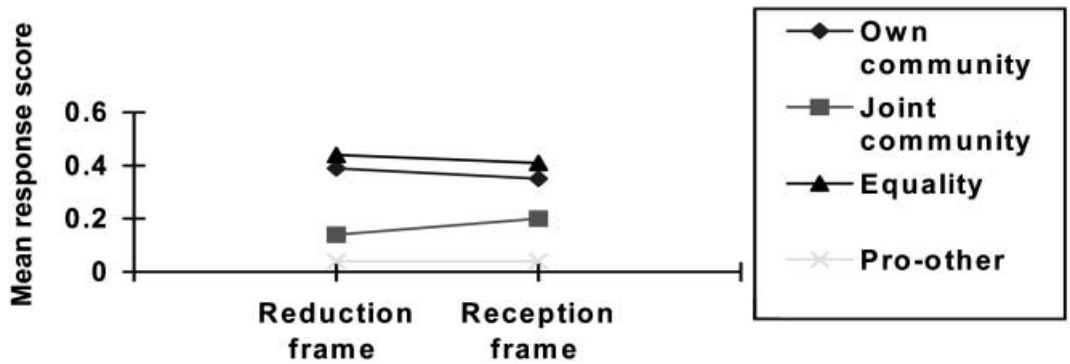

Figure 2. Mean response scores in Study 2 by alternative and control condition.

the own community alternative generally was more frequently chosen or highly rated than the joint community alternative. A reliable interaction between alternative and type of frame was also observed, indicating that type of frame had an impact on the prominence effect. However, it did not distort it.

Manipulation check. The mean weight ratio obtained from the pilot matching-experiment ($n = 36$) was 2.36, indicating that own community gain was perceived to be the prominent attribute.

STUDY 3

The aim of Study 3 was to replicate the results from Studies 1 and 2, despite the fact that the other key attribute, *neighbouring gain*, was made prominent and that a new type of framing was applied. This new type is often referred to as the *Asian disease design* (Tversky & Kahneman, 1981), and is generally considered to be the standard type of framing. Participants choose between two options, one offering a sure outcome and the other a risky one. The frames are manipulated by changing the salience of reference points such that participants perceive formally identical outcomes either as gains or as losses. However, as in Studies 1 and 2, it was assumed that the introduction of a framing manipulation of the described type would not have a negative impact on the prominence effect. It was therefore assumed that *H1b* should be supported in Study 3 and not distorted by this manipulation of a context factor.

Method

Participants. Forty-eight undergraduate students (24 men and 24 women), drawn from the same populations as in the previous studies, were paid SEK 50 to participate in the study.

Experimental design. The experimental design was the same as the one that was used in Studies 1 and 2, with the difference that the nature of the outcome was used as the context factor for the alternatives. In one version the resource could be framed as *"50% likelihood for the community to receive X amount of money from the government per year and inhabitant for environmental protection measures."* In the corresponding version to this example, the resource would be framed as *"100% likelihood for the community to receive X/2 amount of money to the community from the government per year and inhabitant for environmental protection measures."*

Another difference from the preceding studies was that in all tasks, neighbouring community gain was manipulated as the prominent attribute in the sense that participants were informed that the neighbouring community was in need of (need condition), or had deserved (equity condition), priority over the own community.

Based on the balancing of gender and type of student population, participants were assigned to one of two experimental conditions (different versions of manipulating the prominence effect).

The same scoring procedure of participants' responses was used as in Studies 1 and 2.

Results and discussion

A 3 (response procedure: choice vs preference ratings vs rank orders) $\times$ 2 (alternative: own community vs joint community) $\times$ 2 (frame: risky vs risk less) mixed ANOVA with repeated measures on all factors was performed. The analyses yielded the following effects: univariate $F(2, 47) = 2.73$, $p = .08$ for response mode; univariate $F(1, 47) = 4.15$, $p < .05$ for alternative;

univariate $F(1, 47) = 61.20$, $p < .0001$ for type of frame.

H1b. As revealed in Figure 3, the prominence effect was not supported in that the joint community alternative generally was not more frequently chosen or highly rated than the own community alternative. Moreover, a main effect of type of frame was observed but the factor did not interact with alternative. Thus, it had no impact on the prominence effect.

Manipulation check. The mean weight ratio obtained from the pilot matching experiment ($n = 36$) was 1.28, indicating that neighbouring community gain was perceived to be the prominent attribute.

STUDY 4

A specific type of framing has been labelled mental accounting (Thaler, 1980). It implies that people in general write down each consequence in black ink or red ink, depending on whether they count it as a gain or loss with respect to some reference point. The basic characteristic of this type of accounting is that people use it in order to take shortcuts and combine, for instance, two gains, or two losses, or a gain and a loss, before writing them down mentally (Baron, 1994). It was assumed that *H1b* should be supported in Study 4.

The status quo effect represents one major form of mental accounting. It implies that people tend to stick to plans with which they are familiar. For instance, it has been revealed by Samuelson and Zeckhauser (1988) that employees hired before 1980 in an organization tended, 6 years later, to stick with the plans they had originally chosen, and that new plans were chosen mainly by new employees, regardless of age of either group. However, as in Studies 1, 2, and 3, it was assumed that the introduction of a framing manipulation would not have a negative impact on the prominence effect.

Method

Participants. Another 48 undergraduate students (24 men and 24 women), drawn from the same populations as in the previous studies, participated in the study and were paid SEK 50 for their participation.

Experimental design. The experimental design was the same as the one in Study 3, with the difference that the novelty of the situation was used as the context factor for the alternatives. In one version the resource was framed as *"amount of money currently distributed from the government to the community per year and inhabitant since one year for environmental protection measures."* In the other version the resource was framed as *"amount of money currently distributed from the government to the community per year and inhabitant since ten years for environmental protection measures."*

Based on the balancing of gender and type of student population, participants were assigned to one of two experimental conditions (different versions of manipulating the prominence effect).

The same scoring procedure of participants' responses was used as in the previous studies.

Results and discussion

A 3 (response procedure: choice vs preference ratings vs rank orders) × 2 (alternative: own

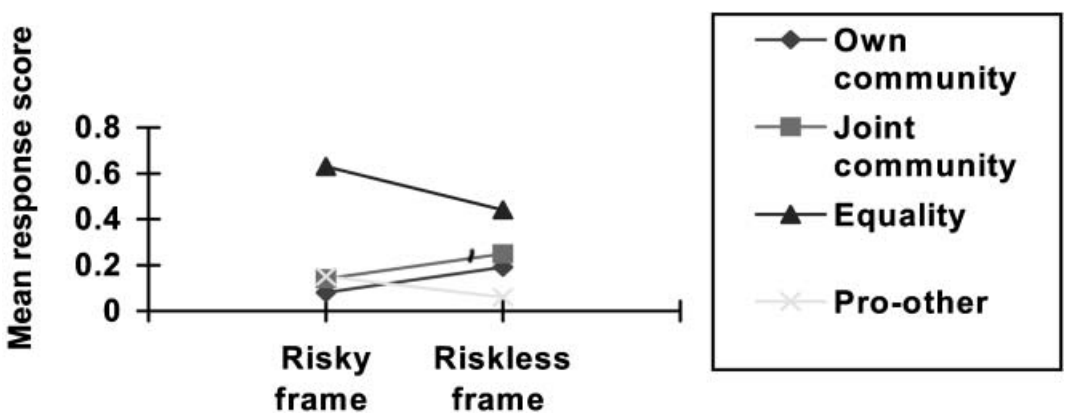

Figure 3. Mean response scores in Study 3 by alternative and control condition.

community vs joint community) × 2 (status quo: present vs absent) mixed ANOVA with repeated measures on all factors was performed. The analyses yielded the following effects: univariate $F(2, 45) = 0.015$, $p = .99$ for response mode; univariate $F(1, 45) = 38.31$, $p < .0001$ for alternative; univariate $F(1, 45) = 1.07$, $p = .31$ for status quo.

H1b. As revealed by the reliable main effect for alternative (see Figure 4 for an illustration), a prominence effect was observed, in that the joint community alternative generally was more frequently chosen or highly rated than the own community alternative.

Manipulation check. The mean weight ratio obtained from the pilot matching experiment ($n = 36$) was 1.14, indicating that neighbouring community gain was perceived to be the prominent attribute.

GENERAL DISCUSSION

The results revealed that the manipulation of own community gain as the prominent attribute in a resource allocation situation led to biased preferences. Clearly, in these kind of situations people tended to prefer alternatives that maximize the gain of the own community in favour of alternatives that, for instance, maximize the joint gain of the own and the neighbouring community (see Bonaiuto et al., 2002; Fried, 2000; Giuliani, 2002, for a discussion). On the other hand, making neighbouring community gain prominent made participants take into account both own community gain and neighbouring community gain to a higher extent. The underlying logic for this reasoning is that making one of the attributes (own community gain) prominent in a resource allocation decision would be equal to a strong manipulation of in-group social identity.

The pro-self nature of the prominence effect

Based on the previous research, a prominence effect was expected in that participants were generally assumed to prefer a matched alternative that maximized the own community gain to a matched alternative that maximized the joint gain, if "own community gain" was manipulated to be the prominent attribute. The results obtained from Studies 1 and 2 supported these predictions. It was also assumed that participants would prefer an alternative that maximized the joint gain of the own community and a neighbouring community, if "neighbouring community gain" was made the prominent attribute. In this situation, participants were not assumed to prefer a pro-other alternative that maximized the gain of the neighbouring community. The underlying reason was that it was predicted that making an "other interest attribute" prominent would not result to the same extent in noncompensatory reasoning leading to the prominence effect. Since participants in these studies preferred an alternative that maximized the joint gain of both communities, the results obtained from Studies 3 and 4 also supported these predictions. Taken together, the results from all the four studies thus suggest that making the gain of the neighbouring community prominent de-biases the prominence effect to a higher extent compared to making own community gain prominent. Place identity may very well serve as an important driver (Cuba & Hummon, 1993). Hence, it may be argued that there seems to be some kind of a pro-self component that explains a large part of the variance observed for the prominence effect. Some form of in-group

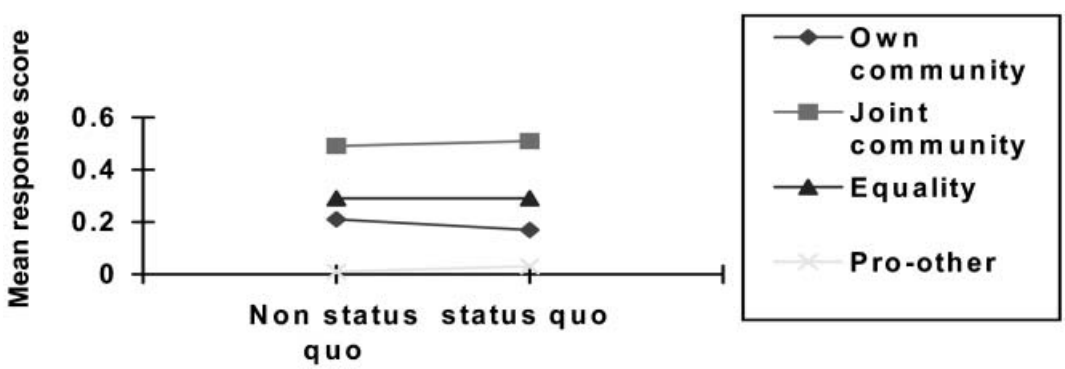

Figure 4. Mean response scores in Study 4 by alternative and control condition.

favouritism may also serve as the driver for it (Brewer, 1999, 2001; Otten & Mummendy, 2000). A strength of the study was that these major results appeared to be quite robust when considered as task effects, as the salience of the manipulated context factors in the studies (in terms of reliable main or interaction effects) did not distort them.

The salience of equality as a competing force

It should be noted that the equality alternative was not assumed to be the most preferred alternative to such a high extent as it actually was. Whether the preference for the equality alternative may be interpreted as being driven by place identity or resulting from some kind of shallow processing is a question that remains to be answered. For instance, Messick (1993) observed that the popularity of the equality principle in many resource allocation tasks may be explained by the fact that it is quite easy to implement heuristically. Thus, an important feature of this principle is that it is quite simple to use. All the information one needs is the number of share takers and then it becomes quite easy to make a division and calculate the per capita share. For this reason, people use equality heuristically, that is, they do not always think seriously and inquisitively about their decision (Messick, 1993, 1995; Roch et al., 2000).

Taking the results from all four studies into account, an interpretation seems plausible in line with Messick's explanation of why people prefer equality alternatives to such a high extent. After all, the preference levels for the equality alternative appeared rather independent on whether "own community gain" or "neighbouring community gain" was manipulated to be the prominent dimension.

Limitations

The operationalization of the joint community alternative was built on the fact that it has recently been suggested that place identity may play a role in resource dilemmas (e.g., Bonaiuto et al., 2002; Fried, 2000; Giuliani, 2002). It was also built on empirical findings suggesting that the notion of place, in people's general opinion, refers to any combination of communities in a region (Cuba & Hummon, 1993). Still, there seems to be a disagreement between different camps of place theorists in the sense that some of them state that place identity is restricted to relationships between humans and their physical environment whereas others use the concept to encompass both social and physical environments. For this reason, it is difficult to draw any clear conclusions about how the concept of place identity may have served as a driver for the observed cooperative behaviour (preference for the joint community alternative). This is something that remains to be explored more thoroughly.

Implications for future research

Future research in the area of contingent weighting in judgment and choice will probably focus more on social decision situations that involve the maximization of gains for others too. Research on how different biases may occur in decision situations that do not include the welfare of others has dominated up until now (Baron, 1997, 1998; Loukopolis & Scholz, 2003, for a practical example). Future field experiments may, for instance, compare people who have been residents in their own community for a long time to people who recently have moved to a new community. It may be the case that such subgroups will have different cognitive representations of what place identity means to them.

Manuscript received March 2004
Revised manuscript accepted February 2005

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