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RISK, PSYCHOPHYSICAL NUMBING AND VALUE OF INDIVIDUAL AND COMMUNITY LIVES: AN EMPIRICAL STUDY

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This paper deals with the "value of life" concept in the field of risk analysis, especially in relation to the sociology of risk. The central part of the paper describes the methodology and main findings of an empirical study analysing the interconnection between the value of life and the value of the social whole. This empirical study is based on "psycho-physical numbing" research and utilises several ideas from folk sociology studies, particularly the notion of the "perceived entitativity" of groups and the corresponding dimensions and factors of "entitativity". Our study demonstrates that the willingness to support programs and measures aimed at helping victims is generally affected by the description of the community under risk, particularly if the community is perceived as a high-entitative one.

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Introduction

The "value of life" concept has been used implicitly in many studies of risk. It is possible to outline two research approaches where the value of life in risk perspective is the main issue. With the first approach, the value of life is estimated based on a person's willingness to pay for the reduction of his or her risk of dying from different causes (Mishan, 1971; Cookson, 2000; Viscusi & Aldy, 2003). The second approach focuses on the analysis of the value of other people's lives by studying the choices of different life-saving programs among alternatives (Tversky & Kahneman, 1981; Levin & Chapman, 1990). Sociologists rarely pay attention to these fields of research, although the sociological perspective can raise some important questions and hint at possible answers. For example, with regards to sociology, even at the early stages of development (e.g. works of Herbert Spencer, Emile Durkheim and Ferdinand Tönnies), studies stressed the importance of the social whole, its structure, and analysed social factors which have independent existence. However, the aforementioned value of life studies have neglected this social dimension, although the consequences of disastrous or risky events quite often imply non-individual victims (e.g. groups or communities).

The main idea underlying our empirical studies can be explicated in the following way: it is important to speak about the value of the community, the value of the social whole and to look for the factors which contribute to this value within risk research.

We will elaborate upon this idea by analysing studies referring to the "psychophysical numbing" principle (PN-principle) (Fetherstonhaugh et al., 1997; Friedrich et al., 1999; Slovic, 2007), whilst also taking into account the related "identifiable victim effect" (Jenni & Loewenstein, 1997; Small & Loewenstein, 2003; Kogut & Ritov, 2005; Gino et al., 2010) and "drop-in-the-bucket" thinking[3] (Bartels & Burnett, 2011).

There are several interpretations of the PN-principle. The initial conception of it reflects our "inability to appreciate losses of life as they become more catastrophic" (Fetherstonhaugh et al., 1997: 284). For example, a program which reduces the number of deaths from 2 000 to 1 000 may be perceived as more valuable than one which reduces deaths from 99 000 to 98 000. Both programs save the same number of lives, thus meaning that there is a contradiction with the idea that "a life is a life"; the perceived value of life is not a constant value (see Fig. 1).

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[3] Bartels and Burnett refer to "drop-in-the-bucket thinking" when they speak about the tendency to regard saving lives as less morally obligatory when victims are construed as a few among overwhelmingly many at risk (Bartels & Burnett, 2011: 50).
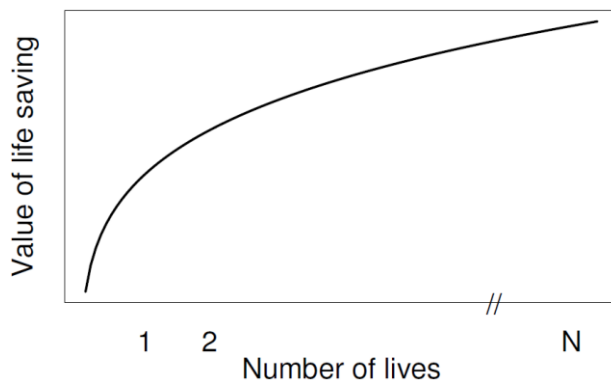
Fig. 1. A psychophysical model describing how the saving of human lives may actually be valued (Slovic, 2007: 85)

There are however important findings which are not reflected in this diagram. One of the most important ideas is that the perceived value of life depends on reference group size. This idea means two different things. First, we can think of the victims as a reference group. We can describe the reduction of deaths from 2 000 to 1 000 in another way, so that the same situation is perceived as a reduction from 12 000 to 11 000 deaths. Depending on the reference group the perception of the program will differ (the former program will be perceived as more valuable than the latter). Second, we can think of the entire community under risk as the reference group. The size of such a reference group matters and as such so does the proportion of victims within this group. For example, one of the findings states that people are more willing to save 90% of a reference group than to save 10% of another group (the absolute number of lives saved held constant). That is to say, the value of other people's lives in the first case is higher than in the second. Generally speaking, in this case there is an influence of proportions on decisions and evaluations together with confusion of a relative and absolute risk, which is discussed in the research (Baron 1997; Friedrich et al. 1999; Bartels & Burnett, 2011).

However, the reference group has other characteristics not related to size, which can affect the decisions. Our proposition is that that the perceived value of individual lives is not an independent variable, but is connected with the perceived value of the society or the community under risk. Current PN studies pay little attention to the fact that the reference group can be of some value per se.[4] Victims are representatives of different groups in these studies: groups may be statistical (victims of traffic accidents or some disease) or real (families or refugee camps). However there is not enough evidence to facilitate a comparison regarding the value of these communities. One of the problems is that the value of a community depends on different factors including the perceived value of individuals composing the said community.

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[4] For an important exception see the work of Bartels & Burnett (2011).

The following two empirical studies focus not on the specific traits of *individual* members but instead on the *community* characteristics presumably responsible for the perceived value of this social group. This approach is based on several ideas from folk sociology studies on lay theories of groups and society (Hong et al., 2001; Hirschfeld, 2001). These studies argue that groups differ in their perceived unity or coherence. There is some evidence that a so-called continuum of perceived entitativity exists, which can be used to discriminate groups (Campbell, 1958; Hamilton & Sherman, 1996; Lickel et al., 2000). Furthermore, it appears that lay theories of groups and societies include essentialist ideas (Haslam et al., 2000; Hirschfeld, 2001; Kashima et al., 2005).

According to folk sociology, some groups or communities may be perceived as more natural, coherent and entitative. Due to the specific qualities of these communities, the common reasoning about them is probably like reasoning about biological organisms[5]. Indeed, this is why people may attribute additional value to such kinds of groups. It is very important that this value has nothing to do with the specificity of the community members as individuals.

Within these folk sociology studies, several community characteristics have been discovered, which influence its perception as something coherent and entitative. A preliminary analysis of several studies shows that there are important properties such as:

- interaction among community members (Lickel et al., 2000);
- cultural continuity, i.e. continuity of norms and traditions (Sani et al., 2007);
- the existence of some underlying reality (Haslam et al., 2000);
- common goals among community members and common outcomes (Lickel et al., 2000; Kashima et al., 2005);
- intragroup similarity (Yzerbyt et al., 2000);
- the existence of sharp boundaries (Haslam et al., 2000);
- duration of the community existence, stability (Lickel et al., 2000; Haslam et al., 2000; Sani et al., 2007).

Some of these properties were used to construct scenarios for our empirical studies. The main aim of this research is to show that the perceived entitativity of communities under risk affects the willingness to help them, i.e perceived entitativity influences on the value of individual lives. Consequently, specific hypotheses based on the folk sociology studies can be formulated in the following way:

Hypothesis 1 ("the Entitativity effect"): The willingness to help is connected with the perceived entitativity. The higher the entitativity, the higher the degree of preference for

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[5] An organism that not only consists of community members that are perceived like cells in the body, but such an entity that can act and even manipulate the physical world.

programs and measures aimed at helping the community. In addition, we also expect that the probability of making PN-like judgments will be higher under high-entitativity conditions, as a threat to a large proportion of a high-entitative community may arouse nearly the same emotional reaction as a threat to a human being. In other words, the loss of the majority of a high-entitative community should be perceived as more catastrophic than the loss of members of a less coherent community. However, this hypothesis does not contain any predictions concerning how low-entitative community ratings are related to perceptions without any relevant description.

The first study is aimed at testing this hypothesis: we construct high- and low-entitative communities and attempt to compare the willingness to help them. However, the first hypothesis is missing one probable confounding factor – the presence of a detailed description itself. This problem is related to the "identifiable victim effect" studies, where the effect of vividness is discussed. Some results suggest that respondents are more willing to help victims if they are described vividly (detailed information is given, an image shown) (Kogut & Ritov, 2005). Thus, *Hypothesis 2 ("the Vividness effect")* implies that the evaluations of programs aimed at helping a community without any description should result in lower ratings than the corresponding evaluations of high- and low-entitative communities. According to this hypothesis it is hard to predict the difference in willingness to help under high- and low-entitative descriptions, because the "level of vividness" is more an empirical question.

In order to explore the influence of this factor we undertake Study 2, where we add an irrelevant community description (not related to any entitativity properties).

Study 1

Materials and Procedure

The design of this experimental study is based on the initial work concerning the PN-principle by Fetherstonhaugh et al. (1997). The community under risk is a refugee camp and respondents evaluated life-saving intervention proposed for two refugee camps.

Respondents had to evaluate four government programs being considered for funding.

Program A addressed an employment problem in their country.

Program B addressed a transportation problem in their country.

Programs C and D aimed to provide clean water to save the lives of 9 000 refugees suffering from an unknown disease (symptoms similar to cholera). The only difference between these two programs was the size of the refugee camp where the water would be distributed:

Program C proposed to offer water to a camp of 11 000 refugees.

Program D proposed to offer water to a camp of 250 000 refugees.

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The key difference between this study and that conducted by Fetherstonhaugh et al. (1997)[6] was an additional independent variable – the type of description of the refugee camps, which had three values.

1. "No description" – in this case the initial questionnaire of Fetherstonhaugh et al. was reproduced.
2. "Low-entitativity" – the camps were described as comprising people from different localities, nationality, religion and language.
3. "High-entitativity" – the camps were described as comprising people from one old village with a long history, all of the same nationality and religion, speaking one language (see Tab. 1).

We also conducted a supplementary study which showed the correctness of the constructed descriptions of refugee camps – the perceived integrity and cohesiveness of the high-entitativity description was higher than under low-entitativity and no description condition (see Appendix A).

The factorial design of Study 1 is presented in Tab. 2.

Tab. 1. High- and low-entitativity descriptions of the refugee camps

Community property	Low-entitativity	High-entitativity
Duration of the community existence, existence of sharp boundaries	People from different localities, trade with other parts of the country	People from one village with long history; no connections with other parts of the country
Cultural continuity	Different traditions and religious beliefs	All of them are keepers of a distinct tradition, they have their own religion
Existence of some underlying reality	Representatives of different ethnic groups	Representatives of one ethnic group
Intragroup similarity	Speak different languages	Speak their own language

An example of a low-entitativity description:
All refugees in this camp are from different localities involved in military action. These localities had intensive trade relations with other parts of the country before the war. Many of them decided to move to a safe location after the war broke out. As a result, some of them crossed the border, where the refugee camp was erected. There were representatives of different traditions, religious beliefs and ethnic groups among these refugees. Furthermore, they spoke different languages and on occasions could not understand each other.

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[6] There were other minor changes, e.g. the camp descriptions were not related to Rwanda, but only to an African country.

Tab. 2. Factorial Design of Study 1

		Factor 1 (between-subjects) – description type		
		1. No description	**2. Low-entitativity**	**3. High-entitativity**
Factor 2 (within-subjects) – reference group size	A. 250 000	Scenario 1A	Scenario 2A	Scenario 3A
	B. 11 000	Scenario 1B	Scenario 2B	Scenario 3B

Respondents evaluated the programs in pairs using a 9-point response scale (1 meant a strong preference for the first program, 9 meant a strong preference for the second). Only four of the six possible pairings appeared in the questionnaire (A–C, B–C, A–D, B–D). Paired comparisons were presented in a randomised order.

The respondents of this study were 304 students and alumni of the Higher School of Economics (Moscow, Russia). An online questionnaire was used and a personal link was sent to each participant via e-mail (1 040 invitations were sent with a resulting 29% response rate).

The description type factor was between-subjects. Each respondent was randomly assigned to one of three versions of the questionnaire (according to the type of refugee camp description), so that the participant never read different types of camp descriptions. The final distribution of the questionnaire between respondents was:

- 101 – no description (Scenario 1A and 1B);
- 94 – low-entitativity (Scenario 2A and 2B).
- 109 – high-entitativity (Scenario 3A and 3B);

Results of Study 1

As in the Fetherstonhaugh et al. (1997) study, ratings on a 9-point preference scale constituted the dependent measure. Participant responses were recoded on a scale from -4 to +4 where +4 meant strong preference for the refugee program (C or D), and -4 a preference for the other program.

Despite minor changes in the questionnaire, in the format of the survey (online survey) and in the sample (participants were not only students, but also alumni), the results replicated the Fetherstonhaugh et al. study provided that there is no difference between reactions to camp description types. An indirect comparison of two life-saving programs indicated that respondents

were more willing to help refugees in the small camp (11 000) than in the large camp (250 000 people), although the number of lives saved was the same in both cases. A within-subject 2x2 analysis of variance was conducted (varying comparison program type and the camp size). As in the initial study, the results revealed a camp-size main effect, $F (1,303)=31.1, p<0.001$. In other words, the average rating of a refugee camp program was significantly higher under the small camp condition ($M=0.97$ when compared with the transportation program and $M=-0.02$ when compared with the unemployment program) than under the large camp condition ($M=0.5$ and $M=-0.59$ respectively)[7] (Fig. 2).
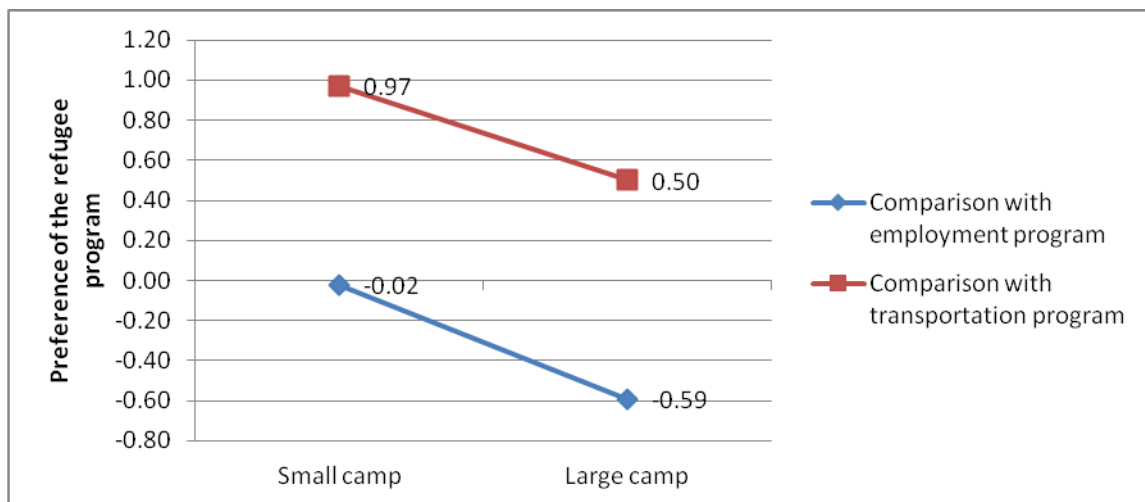

Fig. 2. Main effects in Study 1 for refugee camp size (11 000 or 250 000) and program type (transportation or employment) using preference ratings from paired comparisons.
Note:
Positive numbers indicate the preference for a refugee program over the corresponding employment/transportation program on a 9-point scale (-4 to +4).

In order to test our hypotheses we had to analyse the between-subjects factor (description type) effects. Our results were consistent with the first hypothesis: the refugee programs under high-entitativity condition (regardless of the programs they are compared with) have the highest ratings (see Fig. 3 and 4).

A multivariate analysis of variance showed that the between-subject factor has a significant effect on the ratings of the refugee camps ($F (2,301)=3.2, p=0.04$). It is worth noting that the effect is mainly due to the evaluation of the high-entitativity communities under risk. This effect disappeared with the exclusion of these evaluations $F(1,193)=0.05, p=0.94$.[8] Paired comparisons also indicated that there were no differences between the low-entitativity and no description conditions (if the refugee camp size is held constant).

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[7] Paired comparisons using t-test indicated differences at $p<0.001$ significance.
[8] On the contrary, if we merge the estimates of low-entitativity and no description conditions then the description type factor is significant at $p = 0.01$.
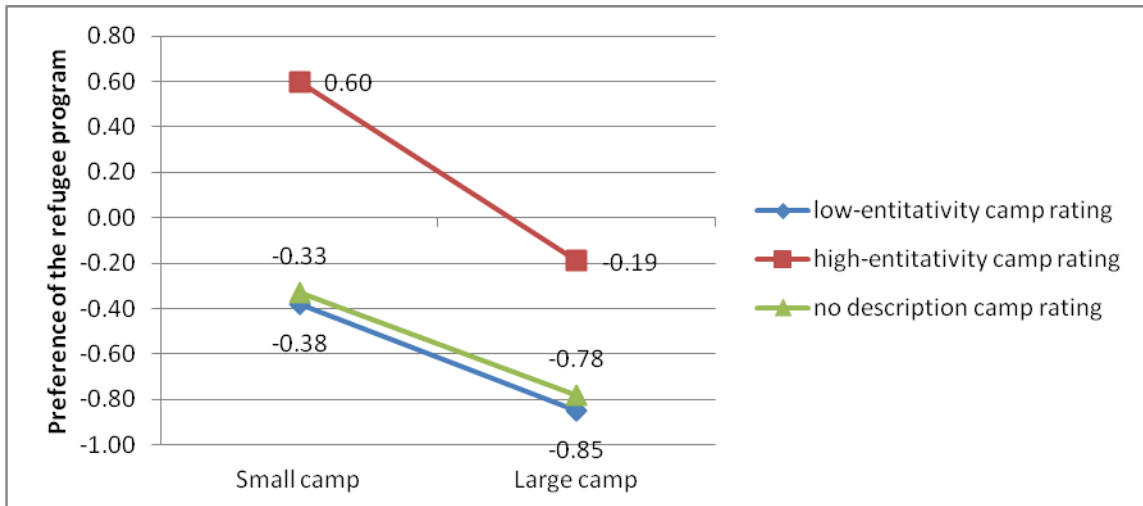
Fig. 3. Main effects in Study 1 for refugee camp size (11 000 or 250 000) and description type using preference ratings from comparison with employment program.
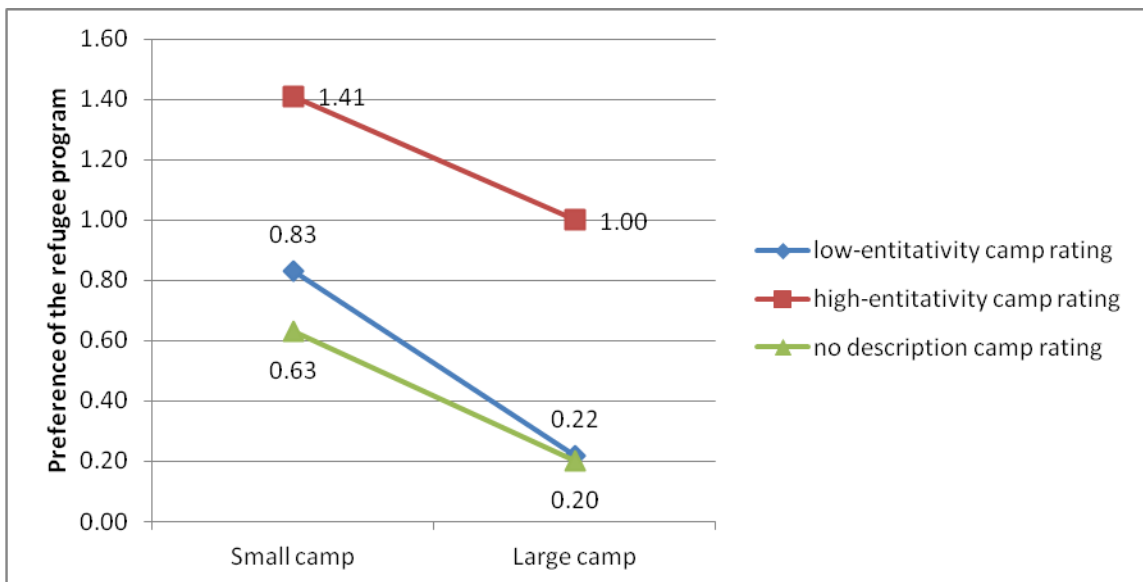

Fig. 4. Main effects in Study 1 for refugee camp size (11 000 or 250 000) and description type using preference ratings from comparison with transportation program.

However, high-entitativity camp ratings were not always significantly higher than ratings of other description types. Preference ratings in comparison with the employment program were significantly higher only in the small camp condition: $M=0.6$ was significantly higher than $M=$-0.33 (no description) and $M=-0.38$ (low-entitativity community).[9] Preference ratings in comparison with transportation program were in all conditions higher for the high-entitativity description at $p<0.05$ with one exception: there was no difference between evaluations of high- and low-entitativity descriptions of the small camp ($t=1.5$, $p=0.13$).

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[9] t=2.2, p=0.028 and t=2.3, p=0.022 respectively.

Nevertheless, we claim that the willingness to help refugees depends on the description type. Respondents rated the life-saving programs higher if these programs helped a high-entitativity community which is perceived as a coherent and an integrated unit. Our preliminary conclusion is that the value of life is indeed related to community characteristics such as entitativity. Results are limited by our small sample size and the low variance of socio-demographic characteristics: although three groups of respondents do not differ in gender, age and education, it is still quite possible that our conclusion may be biased by other uncontrolled variables.

In order to test the second part of the first hypothesis an individual dichotomous variable was constructed. It scored 1 if a person made a PN-like evaluation by ascribing a higher score to the small camp than to the large one, 0 in all other cases (see Friedrich et al., 1999). The overall probability of making a PN-like evaluation was 0.2 for comparisons with employment program and 0.18 for transportation program.[10] We expected that under high-entitativity conditions the PN-like evaluations would be more widespread.

Our empirical data in part supports the initial proposition: the probability of PN-like evaluations under high-entitativity condition (0.26) is statistically higher than no-description condition (0.15) for comparison with employment program ($t=2.0$, $p=0.05$), although other probability differences were not statistically significant (Tab. 3).

Tab. 3. Probability of PN-like evaluation

Description type	Comparison with employment program	Comparison with transportation program
Low-entitativity	0.20	0.18
High-entitativity	0.26	0.17
No description	0.15	0.18

Study 1 showed that presenting a high-entitativity description not only increases the willingness to help in some cases, but also makes the estimates more biased, consistent with the PN-principle. In other words, the data corresponds to the first hypothesis. The second hypothesis, on the contrary, is rejected because the absence of a vivid description does not decrease the camp ratings, although this phenomenon should be analysed more thoroughly.

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[10] It is remarkable that some respondents (about 6-7%) followed the opposite to PN-principle evaluation pattern. They rated large-camp descriptions higher than the small-camp ones.

Study 2

Materials and Procedure

The goal of our second study was not only to reproduce the results by means of another tool, but also to analyse the effect of a confounding factor – description vividness. To achieve this goal we focused on differences between high-entitativity description and situations where detailed information about the community under risk is completely absent. In addition, we also decided to add another situation with an non-entitative community description which was constructed in such a way that it had nothing to do with entitativity. Provided that the vividness hypothesis is plausible the proposition was that the no description condition should result in lower ratings of willingness to help than the high-entitativity community description. Thus, the following three levels of an independent variable were used in the second study:

1. High-entitativity description;
2. Description without detailed information;
3. Non-entitative description (without any references to community properties as a cohesive or an integrated unit).

Moreover, the high-entitativity and non-entitative community descriptions were followed by a picture in order to stress the vividness factor.

We also tried to overcome a shortcoming of Study 2 by constructing the cover story and scenarios in such a way that they would be closer to the everyday experience of our respondents, because we had indirect evidence (personal communication with participants after the survey) that the situation of a refugee camp is something beyond the common experience of our participants.

The cover story of study 2 described terrorists capturing a hydroelectric power plant. If the government does not give in to their demands, they threaten to blow up the hydro plant. In this case the nearby town (or a part it) will go under water in minutes.

A high-entitativity town with the fictitious name of Ninegorsk was described using the same procedure as in Study 1 (Tab. 4).

Tab. 4. High-entitativity town description

Community property	High-entitativity
Duration of the community existence	The town was established on the site where a village was located (dates back to XVII century). Within contemporary borders of Ninegorsk a male monastery was founded in 1837 which later transformed into a village. Several manufactories were functioning in the village producing bricks and candles.
Existence of sharp boundaries	The flood covers the entire town (or a part of it)*. The town is isolated from other cities of the country
Common goals and common outcomes	The town had its own timber factories long before hydroelectric power plant was built.

Notes:
* According to the idea of entitativity we should have used the "entire town" phrase under all conditions. However, since under large town condition a small proportion of the population should have been mentioned, it was decided to speak about a part of the town in this case.

The non-entitative description (third level) was similar to the high-entitativity one by length (approximately the same number of words), but was not related to any entitativity properties:

> Ninegorsk is a town which got its name from the mountain river Ninea. The town is located on the right bank of the river. The original of the name of the river is still unclear. The town is the third largest in the region in terms of area and population. The town includes several villages, spread out along the Ninea. The terrain is flat whilst in the east of the city a pine forest can be found. Ninegorsk has a continental climate, and annual precipitation of approximately 250-300 mm.
>
> The town has 7 large, more than 100 small and medium-sized enterprises of wood and food industry, construction and transport.

High-entitativity and non-entitative descriptions were followed by a picture: map of the town with the flood area in the former case and a "photo" in the latter (see Appendix B).

As in the previous study, the description type was a between-subjects variable. Another independent variable (within-subjects) was the reference group size:

A. Part of the large town. The flood area is inhabited by 108 000 people, with the number of probable victims totaling 10 800 (10%).

B. The entire small town. The flood area in this case is the entire town, which is inhabited by 12 000 people, with the number of probable victims totaling 10 800 (90%).

We see that the absolute numbers of victims is the same in both cases. According to the PN-principle we expected a higher willingness to help in the second ("small town") condition.

Factorial design of Study 2 is presented in Tab. 5.

Tab. 5. Factorial Design of Study 2

	Factor 1 (between-subjects) – description type		
	1. High-entitativity	**2. No description**	**3. Non-entitative**
Factor 2 (within-subjects) – reference group size A. 108 000	Scenario 1A	Scenario 2A	Scenario 3A
B. 10 800	Scenario 1B	Scenario 2B	Scenario 3B

To measure the dependent variable – willingness to help the town dwellers and the perceived value of their lives – two questions were used:

(1) The choice of whether or not to let terrorists blow up the plant or to give in (and save the town dwellers). Respondents had to evaluate this option using a 9-point scale. 9 indicated a strong support for the second option, 1 strong support for the first, whilst 5 indicated no preference.

(2) A direct question as to whether or not it is acceptable to sacrifice the described number of city dwellers under these circumstances. A 9-point scale was also used, where 1 indicated that it is acceptable to sacrifice them, and 9 that it is not acceptable at all.

Each town description was followed by measures of entitativity and emotional reaction (the same three questions used in the supplementary study).

The respondents were 248 students and alumni of HSE. As in the previous study, the same procedure of online survey was implemented. Each respondent was randomly assigned to one of three versions of the questionnaire (according to the description type). This resulted in the following distribution of participants:

- high-entitativity – 94 (Scenario 1A and 1B);
- no description – 109 (Scenario 2A and 2B);
- non-entitative – 45[11] (Scenario 3A and 3B).

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[11] This version of the questionnaire had the same response rate and break off rate, but we initially sent fewer invitations.

Results

The first research question asked whether or not the evaluations in this study corresponded to the PN-principle. In this case the preference for choices which save the town dwellers should have been higher for the small-town condition. The second question concerned the influence of the description type on the preferences.

We first analysed two dependent variables, and discovered that they were highly correlated, *r=0.86 (p<0.001)*. Following this, a 2x3 analysis of variance with one within-subject factor (reference group size) and one between-subjects factor (description type) was conducted. When we used a direct question asking whether or not it is acceptable to sacrifice the described amount of city dwellers as a dependent variable, the influence of both factors was insignificant[12] (see also Tab. 6). However, if we take the rating of saving the town dwellers by giving in to terrorists' demands as the dependent variable then the reference group size factor still has no significant effect,[13] although the description type factor has one, $F(2,245)=3.7$, $p=0.025$.

Tab. 6. Mean propensity to save the town dwellers
(mean ratings)

Scenario No.	Reference group size	Description type	Save the town dwellers by giving in to terrorists' demands	Unacceptability to sacrifice the town dwellers
1A	108 000	High-entitativity	5.11	6.98
2A	108 000	No description	6.14	7.38
3A	108 000	Non-entitative	6.07	7.69
1B	12 000	High-entitativity	5.33	7.07
2B	12 000	No description	6.15	7.38
3B	12 000	Non-entitative	6.04	7.64

A closer look at the influence of the description type provided data which is inconsistent with our hypotheses: respondents were *less* inclined to make concessions to terrorists if the town is described as a high-entitative communtity. Participants were *more* willing to save the town

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[12] For the effect of the reference group size *F(1,245)=0.06, p=0.8*, for description type *F(2,245)=2.16, p=0.12.*
[13] *F(1,245)=0.7, p=0.4.*

dwellers if they had *no* information (or this information is irrelevant to entitativity) about the town.[14]

What is also remarkable is that the only evidence of the PN-principle could be seen under high-entitativity conditions – in this case respondents rated the option of saving the small-town dwellers (*M=5.33*) higher than saving large-town dwellers (*M=5.11*).[15] Under all other description type conditions no statistically significant differences between the estimates of the small and large town were found.

Using the same dichotomous variable to assess the probability of PN-like evaluations as in the previous study it was shown that for the high-entitativity condition the corresponding probability is (0.16)[16]. This was higher than for the non-entitative description (0.04)[17], although statistically indistinguishable from (0.13)[18] under no description condition.

To conclude, the results of Study 2 were ambiguous and needed further elaboration. First, the questionnaire could not capture the presence of the PN-principle as clearly as in Study 1. On the one hand, the reference group size effect was found only under the high-entitativity condition. On the other hand, PN-like evaluations were made under the high-entitativity and no description conditions.

Secondly, the description type affected the evaluations, although neither of our hypotheses accounted for the direction of this effect: the perceived value of town dwellers under high-entitativity description was lower than without any detailed description and lower than under the non-entitative description. In other words, high-entitativity descriptions occasionally *diminish* the perceived value of the community.

Answers to our direct entitativity questions did not help to explain these results. As predicted, the high-entitative town was perceived as a more integrated and cohesive unit (no differences between the absence and non-entitative descriptions). Feelings towards these three town images were equally positive. Differences in gender, age and education also failed to account for these findings: all three groups formed by levels of between-subject factor (type description) had the same distribution of these socio-demographic characteristics.

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[14] Pairwise comparisons showed that there is no significant differences between non-entitative descriptions and situations where the detailed description is absent (provided the same reference group size).

[15] *t=-1.84, p=0.068*

[16] This probability was calculated for the first dependent variable (preference to save the town dwellers by giving in to terrorists' demands). For the second variable no significant differences were found.

[17] According to the Levene test (p<0,000) equal variances were not assumed, t=-2.3, p=0.02.

[18] *t=-0.63, p=0.53.*

Conclusion

There were several limitations to our study indicating that further research is needed in order to obtain well-founded results.

1. The sample should be expanded: we need to include representatives of other socio-demographic groups[19], because in this study the questionnaire was distributed only among students and alumni of the Higher School of Economics, who might be familiar with the theoretical background of this study (see Friedrich et al. (1999) for a discussion regarding the importance of economic reasoning for this field of research). Moreover, the sample size should be increased in order to obtain more statistically significant results.

2. The link between entitativity and perceived value should be tested more thoroughly. Our results were inconsistent: the assumption that high-entitative communities are more valuable seemed self-evident, but only Study 1 supported this proposition. We found that in some cases high-entitative communities may be perceived as less valuable. This corresponded with conclusions from Abelson et al. (1998) that entitative groups are sometimes perceived as threatening although our data could not be interpreted in the same way (respondents had at least the same level of warm feeling towards the part of the high-entitative town in the Study 2).

3. The reference group size in both studies was a within-subjects factor which could lead to a significant carryover effect. There was indirect evidence that in Study 2, respondents, as a result of a vivid town description, did not notice the difference in the reference group size (although the initial study of Fetherstonhaugh et al. (1997) demonstrated that participants pay attention to these changes, but in that study the descriptions were sketchy). We believe that our study should be replicated with community size as a between-subjects factor – in this case we would expect to obtain results consistent with PN-principle results.

4. It is also necessary to discuss the fact that in both studies 6-8% of respondents were more willing to help communities with a large reference group than with a small one, i.e. they demonstrated a pattern which was opposite to the PN-principle pattern of evaluations. This was much more than the 2% reported in the study by Friedrich et al. (1999: 285). The explanation of this pattern of estimates is likely to contribute to the interpretation of the results.

Overall, the results of our study were ambiguous and need further elaboration. Our key conclusion that community description matters under some circumstances is too general, as we could not even predict the direction of the influence. In the first study a high-entitativity description increased the willingness to help refugees (this corresponded to the first hypothesis), whereas in the second study it decreased the willingness to help. Future studies should also pay

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[19] For example, in order to compare the responses of Moscovites and small town residents.

specific attention to elements of the description, wording or the specificity of the operationalisation of variables which produced this unexpected effect.

Another important result was the fact that there seemed to be a difference between factors of entitativity and vividness. In the first study we found no differences between low-entitative descriptions and the situation without detailed information. Moreover, in the second there were no differences between non-entitative descriptions and situations without descriptions. This may imply that the presence of a more vivid image is not a sufficient condition to expect more willingness to help, and thus our data contradicted the second hypothesis. However, certain limitations surrounding this conclusion should be mentioned.

First, we did not use any independent vividness measures of the constructed descriptions, and relied instead upon a simple assumption that a detailed description is a vivid one. However, it is still possible that low-entitative and non-entitative descriptions were perceived as less vivid in comparison to high-entitative ones. Besides this, our "no description" condition necessarily included some (albeit limited) information about the community.

Second, the results of previous research in this field are also ambiguous, thus making the second hypothesis weaker. Kogut & Ritov (2005: 160-161) demonstrated that additional information about the victim (age, name and photo) increases the willingness to make a monetary contribution, whereas Jenny & Loewenstein (1997: 242-252) found no significant effect of a vivid description (see also Gino et al., 2010; Small & Loewenstein, 2003). Moreover, these studies analysed the perception of individuals, while the focus of our work was the community as a whole, which has an image not directly related to individual characteristics.

Third, we emphasised the possibility of making an analogy between a biological organism and the social whole. We relied on the idea that any community can be located on a "continuum of entitativity" – from mechanical, heterogeneous and statistical associations to coherent and integrated units. However, individuals *always* have a high degree of entitativity. It means that our conclusions cannot be applied to any phenomena at the individual level.

Fourth, Jenny & Lowenstein (1997) and Kogut & Ritov (2005) studied the so-called "identifiable victim" effect, while Fetherstonhaugh and colleagues – as well as our study – focused only on *identifiable* communities (all social groupings have a name and are confronted with risk). However, the community can also be "unidentifiable" and this aspect was beyond the scope of our study.

In spite of the equivocality of our findings we still believe that this study is an important step towards a better understanding of the interaction between the value of perceptions from individuals and community lives. We demonstrated that the perceived value of life does not

depend only on the reference group size but also on certain community characteristics. This result is consistent with the latest findings of relevant research (Bartels & Burnett, 2011).

Appendix A

Assessing descriptions in Study 1: procedure and results

It was crucial to ensure that the three description types indeed characterised the "degree of entitativity", and thus a small supplementary online survey was conducted where these descriptions of refugee camps were presented (without specifying their size), followed by three questions.

Two of the questions aimed to identify the "degree of entitativity" and were designed on the basis of previous entitativity studies:

- To what extent do you view this refugee camp as an integrated unit? (Susskind et al., 1999: 183)

- To what extent do you view this refugee camp as a cohesive group? (Sani et al., 2005: 1084)[20]

Respondents used an 8-point scale to answer the questions, with the possibility of selecting "no opinion": there was no pilot study and we expected that some of the respondents may have difficulties answering the questions. With this in mind, we felt that the non-response option reduced the possible discomfort level.

We also decided to use a tool for assessing a general emotional reaction to these communities – the so-called "Feeling Thermometer", which is widely used in political studies and in intergroup attitudes studies (for example, the attitudes towards people with mental illness or homosexuals (Haddock, Zanna & Esses, 1993)). We used the following wording:

- We may have warm feelings towards some groups, but we may have negative emotions, on the contrary, towards other groups. On a scale from -5 to 5, please indicate what feeling do have about this refugee camp? (the answer could be given on an 11-point scale)

The order of the camp descriptions was randomised. 76 students and alumni of the HSE completed the online questionnaire.

64 respondents answered both entitativity questions. The Pearson correlation coefficient of these two measures was relatively high (r=0.78), so as an integral evaluation of entitativity we used the average of two responses (1 being the lowest level of entitativity, 8 being the highest).

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[20] Note that in these studies relevant questions were used in combination with other questions in order to construct a scale of perceived entitativity. However, we could not use any of these "ready-made" solutions because they were not applicable to large social entities or explicitly referred to certain properties mentioned in our descriptions.

The scale of the "Feeling Thermometer" question was transformed in such a way that 1 indicated a negative attitude and 11 a positive feeling.

The average ratings of the three description types indicated that they had been constructed correctly: the perception of entitativity matched our expectation, e.g. the high-entitativity description was indeed evaluated as the most integrated and cohesive entity (Tab. 7). At the same time the emotional response to these three descriptions was at a constant level (with somewhat higher estimates of the high-entitative refugee camps). With this in mind we are able to draw conclusions regarding the degree of entitativity of these camps, although probably not emotional reactions towards them when it comes to the influence on willingness to help.

Tab. 7. Assessing description types
(mean ratings)

| Description type	Perceived level of entitativity (from 1 to 8)	"Feeling Thermometer" (from 1 to 11)
Low-entitativity	4.3**	7.7
High-entitativity	6.8**	8.1*
No description	5.8**	7.7

Note:
* Pairwise comparison with other types indicates significant differences at p<0.05
** Pairwise comparison with other types indicates significant differences at p<0.001
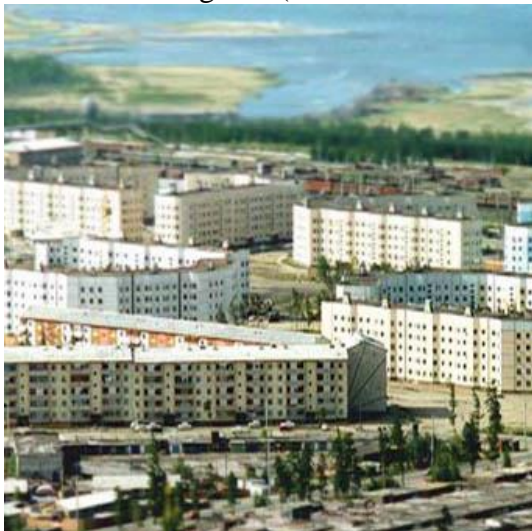
Appendix B

Pictures used in Study 2

Map of Ninegorsk with the flood area ("small town"/ "entire town" condition)
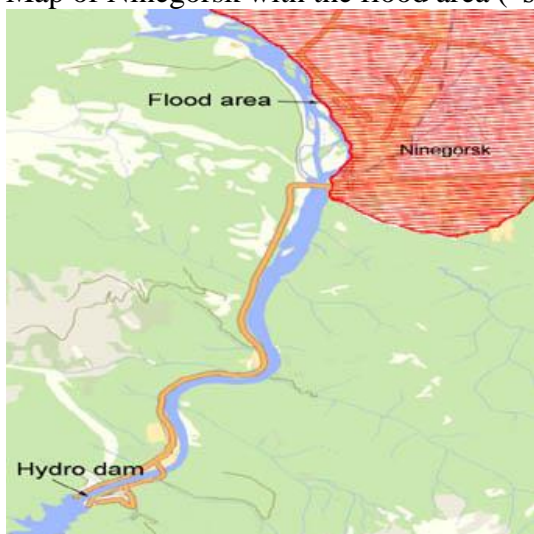
Map of Ninegorsk with the flood area ("large town"/ "part of town" condition)

Picture of Ninegorsk (under non-entitative description condition)

References

1. Abelson R. P., Dasgupta N., Park J., & Banaji M. R. (1998). Perceptions of the collective other // Personality and Social Psychology Review, 2, 243-250.

2. Baron J. (1997). Confusion of Relative and Absolute Risk in Valuation // Journal of Risk and Uncertainty, 14, 301-309.

3. Bartels D., Burnett R. (2011). A Group Construal Account of Drop-in-the-Bucket Thinking in Policy Preference and Moral Judgment // Journal of Experimental Social Psychology, 47, 50-57.

4. Campbell D. T. (1958). Common Fate, Similarity, and Other Indices of the Status of Aggregates of Persons as Social Entities // Behavioral Science, 3, 14–25.

5. Cookson R. (2000). Incorporating Psycho-Social Considerations into Health Valuation: An Experimental Study // Journal of Health Economics, 19, 369-401.

6. Fetherstonhaugh D., Slovic P., Johnson S.M., Friedrich J. (1997). Insensitivity to the Value of Human Life: A Study of Psychophysical Numbing // Journal of Risk and Uncertainty, 14, 283-300.

7. Friedrich J., Barnes P., Chapin K., Dawson I., Garst V., Kerr D. (1999). Psychophysical Numbing: When Lives Are Valued Less as the Lives at Risk Increase // Journal of Consumer Psychology, 8, 277-299.

8. Gino F., Shu L., Bazerman M. (2010). Nameless + harmless = blameless: When seemingly irrelevant factors influence judgment of (un)ethical behavior // Organizational Behavior and Human Decision Processes, 111, 93-101.

9. Haddock G., Zanna M. P., Esses V. M. (1993). Assessing the Structure of Prejudicial Attitudes: The Case of Attitudes Toward Homosexuals // Journal of Personality and Social Psychology, 65(6), 1105-1118.

10. Hamilton D., Sherman S. (1996). Perceiving Persons and Groups // Psychological Review, 103, 336-355.

11. Haslam N., Rothschild L., Ernst D. (2000). Essentialist beliefs about social categories // British Journal of Social Psychology, 39, 113-127.

12. Hirschfeld L. (2001). On a Folk Theory of Society: Children, Evolution, and Mental Representations of Social Groups // Personality and Social Psychology Review, 5, 107–117.

13. Jenni K. E., Loewenstein G. (1997). Explaining the "Identifiable victim effect" // Journal of Risk and Uncertainty, 14, 235–257.

14. Kashima Y., Kashima E., Chiu C., Farsides T., Gelfand M., Hong Y., Kim U., Strack F., Werth L., Yuki M., Yzerbyt V. (2005). Culture, essentialism, and agency: Are individuals universally believed to be more real entities than groups? // European Journal of Social Psychology, 35, 147–169.

15. Levin I. P., Chapman D. P. (1991). Risk Taking, Frame of Reference, and Characterization of Victim Groups in AIDS Treatment Decisions // Journal of Experimental Social Psychology, 26, 421-434.

16. Lickel B., Hamilton D., Wieczorkowska G., Lewis A., Sherman S., Uhles A. (2000). Varieties of Groups and the Perception of Group Entitativity // Journal of Personality and Social Psychology, 78, 223-246.

17. Mishan E.J. (1971). Evaluation of Life and Limb: a Theoretical Approach // Journal of Political Economy, 79 (4), 687-705.

18. Sani F., Bowe M., Herrera M., Manna C., Cossa T., Miao X., Zhou Y. (2007). Perceived collective continuity: Seeing groups as entities that move through time // European Journal of Social Psychology, 37, 1118–1134.

19. Sani F. (2005). When subgroups secede: Extending and refining the social psychological model of schisms in groups // Personality and Social Psychology Bulletin, 31, 1074-1086.

20. Small D., Loewenstein G. (2003) Helping a Victim or Helping the Victim: Altruism and Identifiability // The Journal of Risk and Uncertainty, 26 (1), 5-16.

21. Slovic P. (2007). "If I look at the mass I will never act": Psychic Numbing and Genocide // Judgment and Decision Making, 2, 79-95.

22. Susskind J., Maurer K., Thakkar V., Hamilton D. L., & Sherman J. W. (1999). Perceiving individuals and groups: Expectancies, dispositional inferences, and causal attributions // Journal of Personality and Social Psychology, 76, 181-191.

23. Tversky A., Kahneman D. (1981). The Framing of Decisions and the Psychology of Choice // Science, 211, 453-458.

24. Viscusi K. W., Aldy J. E. (2003). The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World // Journal of Risk and Uncertainty, 27, 5-76.

25. Yzerbyt V., Castano E., Leyens J.-Ph., Paladino P. (2000). The primacy of the ingroup: The interplay of entitativity and identification // European Review of Social Psychology, 11, 257-295.

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