

The Problems of Collecting Data and Evaluating How the Citizens of Osijek were Informed About Environmental, Cultural and Political Issues

(Osijek was one of the focuses of war in the Republic of Croatia)

Jasna Horvat and Nataša Šarlija¹

Abstract

Because of war, economic, cultural and migratory restructuring in Croatia, certain changes in forms and intensity of knowledge of population of Croatia are to be expected (Cifrić, 1990; Missen, 1992). The exploratory hypothesis was tested through comparing ecological, cultural and socio-political knowledge.

The tested sample included 150 people in the 1991 survey, and 227 in 1993. The results showed a significant increase in the socio-political knowledge of the population in the post-war, as well as a decrease in ecological and cultural knowledge.

The survey was carried out on the assumption that the interest in "higher needs" (ecological and cultural level of knowledge in the survey) significantly changes, when basic existential needs are threatened (war activities in Osijek). The exploratory hypothesis implies that in the post-war period, ecological and cultural knowledge (as well as the activities) will decrease for the benefit of the political knowledge, i.e. passive or active political engagements.

The survey had two aims:

- to establish the differences between the quality of getting information about environmental, cultural and political issues before and immediately after war;
- to identify the effect the war had on the behaviour of the subjects during the research.

The survey was carried out in January 1991, five month before the war in Osijek, and than again in January 1993, seven months after the direct war activities in Osijek.

¹ Faculty of Economy in Osijek, J.J. Strossmayer University in Osijek, Republic of Croatia

1. Introduction

It is expected that the intensity and type of information people of Croatia obtained through media will undergo some changes due to the war operations, economic, cultural and migration related restructuring of the Republic of Croatia (Cifrić, 1990; Nissen, 1992). The research hypothesis has been tested by comparing the level of information about environmental, cultural and socio-political issues obtained in 1991 (before the war) and in 1993 (after the war). The tested sample, in 1991, was 150 subjects, and in 1993, 227. In 1993, the researches faced a particular problem a very low level of cooperation of the subjects. This problem could be referred to as special phenomenon caused by "war syndrom". The results show that the population has been more informed about socio-political than about environmental and cultural issues. This research is based on the premise that people significantly change their interest in "higher needs" (in the research - environmental and cultural information level) when their basic existential needs are endangered (in Osijek by war). The research hypothesis presupposes in the post war period, the people will be less informed about environmental and cultural issues and that the activity of population will decrease as well) and more about political issues. The objective of the research was:

- to establish the differences between the quality of getting information about environmental, cultural and political issues before and immediately after war
- to identify the effect the war had on the behaviour of the subjects during the research.

2. Research methodology

The first part of the research was conducted in January 1991, five month before the war operations in Osijek, and the second part in January 1993, seven months after direct attacks on Osijek.

2.1 Osijek

Data for this research was collected in Osijek. Osijek is situated in the north-east of Croatia. Croatia is a new republic that was constituted after the disintegration of Yugoslavia. The Republic of Croatia borders on Italy, Slovenia, Hungary and with the other republics of former Yugoslavia.

From 1991 (when the war began) Osijek is encircled by the areas known as "horseshoe". Namely, it is encircled by the occupied territory from the east, north and the south. The suburb of Osijek is near the front-line. One can hardly speak about the

distance of Osijek from the front-line, since it almost lies directly on it. This fact alone speaks for the special condition in which the population of the town lives.

The economic system of the Republic of Croatia, as well as that of the majority of the republics of former Yugoslavia, has changed from the socialist to the market economy system. The towns like Osijek, as well as the whole Republic of Croatia, are undergoing not only economic changes but also the changes in life style. The way of living characteristic of the war is being replaced by another one which we hope to be characteristic of peace.

We tried in our research to find out weather these changes influenced the views of the subjects. We also assessed changes in levels of different forms of getting information, and as well identifying the degree of subjects readiness for cooperation.

3. Data

The first research was conducted in 1991, within the project financed by Economic Research Department. It was carried out by research team who did not manage to get together after the war.

4. Sample

In conducting the research, the research team came across following problems:

1. it was impossible to intervene in the questionnaire due to the necessity of longitudinal analysis;
2. due to war operations, the population of Osijek changed significantly (refugees and displaced persons - mostly from rural settlements - arrived; part of population of Osijek departed during and after the war). Because of this, it was impossible to create a PANEL sample.
3. the structure of population from 1993 significantly changed when compared to the one from 1993;
4. the data collecting was made extremely difficult since the subjects were not ready to fully cooperate.

The sample from 1991 was selected randomly proportionally to gender, age and educational population structure of Osijek according to the latest census. See Figure 1.

Year 1991

Year 1993

150 subjects

227 subjects

For both data sets, samples proportional to the last census according to:

1. gender
 - 47% male subjects
 - 53% female subjects
2. age
 - 23% 18-30 years of age
 - 56% 30-60 years of age
 - 21% 60 and more years of age
3. education level
 - 67% secondary school graduates

PANEL-DESIGN?

1. questionnaire repeated

67 subjects questioned in 1991 were found which accounts for 27,83% of the number needed for the new sample

2. the population structure changed when compared to 1991 according to gender, age and education

166 units selected from the country census

respecting the sample structure from 1991

32% of the selected units refused to cooperate

60 units selected from county census

respecting the sample structure from 1991
Total number of units in sample is 227.

Figure 1

Since the sample from 1993 could not have been panel sample (because of population migration following the war), researchers decided to form the sample that would maintain the gender, age and educational structure of the subjects corresponding to the one from the sample gathered in 1991.

Since the number of inhabitants increased the sample from 1993 should have included 230 subjects. Initially, it was planned that 150 subjects questioned in 1991 should be included. We succeeded, when repeating our research, to question only 42,67% of subjects questioned in the course of first research (i.e. 64 of them). Since we wanted to maintain the sample structure, we used the country census of Osijek. This census was taken every three months because of the war.

In other words, the panel-design was applied to 27,83% of the subjects questioned in the first research whereas 72,17% of the subjects were selected randomly from the mentioned country census. A special problem was extremely low rate of cooperation of the subjects in 1993. That is why the number of units for this sample had to be completed twice.

Both samples were proportional considering the gender (47% male subjects, and 53% female subjects), age (23% of subjects were less than 30 years of age, 56% of the subjects were between 30 -60, 21% over 60). The majority of them were people who finished secondary school only. The number of people who stated that they were religious believers (86%) increased when compared to the research before the war (76%).

The data used in our research was collected in January 1991; N=150, and in January 1993; N=227. Samples were created proportionally to population age groups of Osijek, according to the last census. Sample units were selected randomly.

5. Variables

In both parts of the research we used the identical questionnaire. Questions were formed in accordance with three target fields: the level of subjects being informed of environmental, cultural and socio-political issues. Target field questions were not listed sequentially.

5.1 Group of questions related to environmental issues

Scales considering the subjects' view on ecology and how well they were informed about environmental issues offered three question modes: "I do not know", "no" and "yes".

- Do you think that one should give greater importance to protection of environment?

- Do you think the nuclear plant “Krsko” should stop working since it represents a potential danger?
- Would you support passing of the environment protection law, if you had to set aside a certain amount of money from your salary?

5.2 Questions related to cultural issues

Scales considering involvement of subjects in cultural forms of life and how well they were informed of cultural issues offered only two question modes: yes or no. We insisted on this concept in order to find out how many subjects would not give the answer when they had to decide for only one out of two modes.

Besides, all cultural events, works and proverbs were invented and false.

- Do you think that reading books, magazines and going to theatre are helpful for gaining social respect?
- One of the novels written by Nobel prize winner Herman Hesse is *Power of silence*. Have you read this book?
- Some time ago Branko Mihaljević's drama *Tena* was on in Osijek theatre? Have you seen it?
- Did famous Nobel prize winner Samuelson call upon his colleagues: "Economists from all countries unite in learning. There's nothing you could loose except your ignorance."?
- Have you read the new weekly magazine *Croatian youth*?

5.3 Questions related to socio-political issues

offered five answering modes, only one of which was correct. When analyzing this group of questions, the scales were coded with two modes. First answering mode included all true answers, and the other included all other answers that were incorrect. This is not referred only on first four questions. For the last four questions it was tested how many subjects will answer incorrectly, i.e. give contradictory answers.

- Have people in your surroundings had conflicts due to any kind of reason? (scale recorded the rate of conflicts in subjects' surroundings in five different states, where 1 stood for state without conflicts and 5 for surroundings in which the conflicts occurred very frequently).
- Do you conflict with the people from your surroundings? (scale recorded the rate of conflicts in subjects' surroundings in five different states, where 1 stood

for state without conflicts and 5 for surroundings in which the conflicts occurred very frequently).

- Generally speaking, do you find yourself to be well informed about current political and social events in our country and abroad? (scale from 1-5 was given, where 1 stood for being poorly informed, and 5 for being well informed).
- The press has always been and still remains the main means of mass social communication of modern public life. How often do you buy newspapers, magazines, the press? (frequency of buying the press was evaluated with a scale from 1-5, where 1 stood for not buying the press, and 5 for buying of the press).
- Indira Ghandi was killed in: (five possible answers were offered only one of which was correct).
- Iran-Iraq war, initiated by Iraq broke out in: (five possible answers were offered only one of which was correct).
- On 8th December 1990, it was the anniversary of the death of John Lennon, the leader of rock group "The Beatles". John Lennon was killed: (how many years ago?) (five possible answers were offered only one of which was correct).
- The capital of Somalia is: (five possible answers were offered only one of which was correct).
- Andrei Koziriev is: (five possible answers were offered only one of which was correct).
- According to the last census from 1971, Osijek had (how many inhabitants?): (five possible answers were offered only one of which was correct).

Besides questions related to given target fields of the research, the information about characteristics of the subjects (independent variable) have been collected. Scale of independent variables (gender, age, marital status, occupation, qualification, residence, religion), were adapted to each variable.

6. Research findings

6.1 Results

In the research conducted before the war, 94,76% of the subjects were for protection of environment, and it was established by t-test that the difference between the stated variable and the tendency of the subjects to set aside certain amount of money for supporting ecology ($t=2,35$) as well as to accept new environment protection law ($t=1,92$) was not significant.

As many as 94,71% of the subjects were for protection of environment in post war research. However, testing of this variable with the t-test, together with other variables from the group of questions considering how high the rate of their being informed about environmental issues was, pointed to some significant differences - significance level was 1%, $t=3,53$.

For the question: Do you think that one should give greater importance to protection of environment, both t-tests, for panel design ($n_{1991} = 67$, $n_{1993} = 67$; $t=1,04$) and for longitudinal design ($n_{1991} = 83$, $n_{1993} = 160$; $t=1,22$) showed that there is no significant difference.

For the question: Would you support passing of the environment protection law, if you had to set aside a certain amount of money from your salary, panel design ($t=2,73$) and longitudinal design ($t=2,84$), showed that the interest of the subjects differ significantly.

It is especially important to emphasize the fact that, when the view on stopping the work of nuclear plant "Krsko" was tested, 30% of the subjects decided for answer "I do not know", whereas this number was 45% in 1993.

Table 1. Chi-square test for answer "I do not know" (Panel design)

Do you think the nuclear plant "Krsko" should stop working since it represents a potential danger?

Gender	1991 (n=67)	1993 (n=67)	Total
female	8	16	24
male	9	22	31
Total	17	38	55

$$\chi^2=0,116$$

Table 2. Chi-square for answer "I do not know" (Longitudinal design)

Do you think the nuclear plant "Krsko" should stop working since it represents a potential danger?

Gender	1991 (n=83)	1993 (n=160)	Total
female	12	20	32
male	16	52	68
Total	28	72	100

$$\chi^2=2,121$$

Chi-square shows that there is no relationship between gender and year according to the answer "I do not know".

It could be concluded that before the war the subjects were supporting environmental activities more, no matter how well informed of environmental issues they were. On the contrary, after the war the subjects' interest in ecology were significantly off, although the percentage of the subjects who stated that they were supporters of environment remained unchanged.

The research showed that the views on protection of environment according to gender before the war, did not distinguish from the ones expressed after war. Namely, in both phases of the research, the subjects answered that they were for giving more significance to protecting of environment $F(1,373)=0,796$.

However, there is a difference between the tendencies toward giving financial contributions to the protection of the environment before and after the war. Before the war, especially women but men as well, were ready to give money for this purpose $F(1,372)=3.873$.

On the contrary, in the research conducted in 1993., 57% of the subjects did not answer the question related to the tendency of setting money aside in order to protect the environment. Everything mentioned so far points to the fact that the questioned people were showing their inclination towards ecology only declaratively.

In research carried out in 1991, 63.33% of the subjects answered that reading books or magazines and going to theatre helped an individual to gain social respect. In 1993, 39,21% of the subjects answered affirmatively and as many as 60,78% of them did not answer the posed question (in 1991, 21% of the subjects did not give their answers). The percentage of incorrect answers to questions considering the rate of their being informed of cultural issues was neither before nor after war over 10%.

Table 3. T-test of environmental issues

	t-test	
	PANEL 1991 (n=67) 1993 (n=67)	LONGITUDINAL 1991 (n=83) 1993 (n=160)
Do you think that one should give greater importance to protection of environment?	1,04	1,22
Would you support passing of the environment protection law, if you had to set aside a certain amount of money from your salary?	2,73	2,84

Table 4. ANOVA of environmental issue - protection of environment
Panel design

Dependent variable: Do you think that one should give greater importance to protection of environment?

(Panel design)

SOURCE OF VARIATION	df	F	SIGNIF. F
GENDER	1	1.180	0.212
YEAR	1	0.961	0.504
INTERACTION GENDER-YEAR	1	0.037	0.834

Table 5. ANOVA of environmental issue - protection of environment
Longitudinal design

Dependent variable: Do you think that one should give greater importance to protection of environment?

(Longitudinal design)

SOURCE OF VARIATION	df	F	SIGNIF. F
GENDER	1	0,93	0.617
YEAR	1	1,523	0.224
INTERACTION GENDER-YEAR	1	0.054	0.823

Table 6. ANOVA of environmental issue - environment protection law
Panel design

Dependent variable: Would you support passing of the environment protection law, if you had to set aside a certain amount of money from your salary?

(Panel design)

SOURCE OF VARIATION	df	F	SIGNIF. F
GENDER	1	1,981	0.170
YEAR	1	12,567	0.001
INTERACTION GENDER-YEAR	1	0.011	0.889

**Table 7. ANOVA of environmental issue - environment protection law
Longitudinal design**

Dependent variable: Would you support passing of the environment protection law, if you had to set aside a certain amount of money from your salary?
(Longitudinal design)

SOURCE OF VARIATION	df	F	SIGNIF. F
GENDER	1	2.132	0.350
YEAR	1	7.541	0.001
INTERACTION GENDER-YEAR	1	0.091	0.795

However, in 1993, majority of questions belonging to the group of questions related to cultural issues were not answered by 30% of the subjects. Explanation for this lies probably in the fact that higher existential needs have been moved to the margin of priorities of needs.

The research conducted before the war showed that 48,77% of the subjects considered themselves to be satisfactory informed of political events. In 1993, the percentage of people who felt that they are well informed decreased to 36,56%. It can be assumed that the uncertainty of war caused them to feel less informed. According to the research conducted before the war, 52% of the subjects read the press daily, on the other hand, it was recorded that there were 34% of the subjects who were reading daily the press in the post war period. Explanation for this lies probably in the fact that the purchasing power of the citizens in 1993 significantly declined. The research showed that the differences of conflicts in the surroundings in the period before and after war ($t=12,91$), as well as the differences of conflicts between the individuals and his/her surroundings ($t=8,46$) were significantly.

The group of question testing the quality of getting information about concrete historical socio-political events pointed out further significant differences between the answers given in 1993 and those given in 1991.

Considering their interest, the subjects estimated that they were informed better in the period after war $F(8,366)=3,038$, $p=0,003$. There was relatively larger number of the subjects who correctly answered certain questions in the research conducted in 1993, which also proves $F(8,350)=3,559$, $p=0,001$ for the subjects considering their interest and correctness of answers to questions related to socio-political events.

7. Conclusion

The way in which the war influenced the change of needs, interests and way of living will probably be the subject of numerous research projects. This paper tried to show just one way in which war can effect the population. A problem occurred during our research, since we had no possibility of carrying out the panel-design, due

to migration changes in the area observed. Migration changes, among other things, resulted in cultural changes (increasing of the number of rural population having lower education - refugees and displaced persons; young age group leaving for more quiet and perspective areas).

The paper was limited by the questionnaire used in 1991, a similar format was maintained for the research conducted in 1993, in order to be able to compare data longitudinally. Special problem was extremely low rate of cooperation of people questioned when filling out the questionnaires in the research from 1993.

Besides, it is characteristic that the subjects answered affirmatively to the questions where they should have evaluated how well they were informed, but the later analysis proved this incorrect.

Moreover, they decided for either answering mode "I do not know", or for not giving the answer at all, especially for survey items asking them to express their personal point of view.

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