

Supplementary material

Comparative study by socio-demographic characteristics

In this supplementary material we report the results of a comparative study of the indicator scores and the item values of the people surveyed according to their socio-demographic characteristics. The indicator scores were estimated using the R statistical package *lavaan* [32].

Table S1 shows the results of a descriptive study of the socio-demographic characteristics of the respondents. The most frequent profile of the respondents corresponds to a woman (52.3%), between 26 and 55 years of age (54.5%), with university studies (42.6%) and salaried (44.2%)

Tables S2 to S4 show the results of the indicators grouped by sex and age (Table S2), level of studies (Table S3) and employment situation (Table S4). These tables display the mean and standard deviation values and the p-values of the Wilcoxon rank (two groups) and Kruskal-Wallis tests (more than two groups). Tables S5 to S7 show the information corresponding to the items associated with each indicator.

The results by sex and age (Table S2) reveal the existence of three difference trends. Young people (up to 25) tend to give lower valuations to the inputs, the effects of FARO and EXPO on the work of NGOs and its long-term impact on the future of the city, and the increase of the awareness of the problems related to water and sustainable development. Woman over 55 tend to have a higher valuation of these aspects, with the other groups occupying intermediate positions. The only exception is the group of men up to 55 who tend to give lower valuations to the Impacts on City of EXPO. This pattern occurs in all the items related with these indicators (Table S5).

With respect to the level of study (Table S3), people with university studies tend to give lower valuations than the average while people with basic studies tend to give higher valuations than the average about the effects of FARO and EXPO on the work of NGOs and its long-term impact on the future of the city and the increase of the awareness of the problems related to water and sustainable development. This pattern also occurs in all the items related with these indicators (Table S6).

Finally, if we consider the employment situation (Table S4), students tend to be the least satisfied while housewives tend to be the most satisfied about the results and effects of FARO and EXPO in the short, medium and long term, with the other groups occupying intermediate positions. This pattern occurs in all the items related with these indicators (Table S7). Only in the Outcomes of City do retired people tend to give the worst valuation about the international knowledge of Zaragoza after EXPO (Table S7).

As a conclusion we can say that, young people (especially women) and those with a higher level of education, although they value the results positively, give lower values than the rest of the groups. On the contrary, women over 55, those with basic education and housewives tended to value the effects of the EXPO more highly than the other groups, especially in the medium and long term. To a certain extent, these differences were expected: the EXPO was a leisure and recreation place that everyone liked and, especially, people with more free time and basic studies. On the contrary, the young and/or people with a higher level of education, who belong to the most dynamic layers of society, although they also enjoyed the event, were more critical about the achievement of the medium and long-term objectives. It should be said, however, that the differences detected, although statistically significant, were not very high and that the general opinion was positive.

Table S1. Descriptive study of the socio-economic characteristics of the respondents.

Sex and Age	Frequency	%	Level of studies	Frequency	%
Men up to 25	46	10.1	Primary	109	24.0
Men from 26 to 55	120	26.4	Secondary	152	33.4
Men over 55	51	11.2	University	194	42.6
Women up to 25	55	12.1	Employment	Frequency	%
Women from 26 to 55	128	28.1	Housewife	68	14.9
Women over 55	55	12.1	Student	111	24.4
			Salaried	201	44.2
			Autonomous	37	8.1
			Retired	38	8.4

Table 2S. Comparative study of average indicators by sex and age (standard deviation between parentheses)*

Indicator	Men up to 25	Men 26 up to 55	Men over 55	Women up to 25	Women 26 up to 55	Women over 55	All	Kruskal-Wallis p-value
Input	−0.46 (1.37)	0.02 (1.59)	0.01 (1.42)	−0.61 (1.75)	0.07 (1.36)	0.79 (1.13)	0.00 (1.50)	0.000
Output EXPO	−0.35 (2.03)	0.06 (1.83)	0.01 (1.93)	−0.34 (2.04)	−0.01 (2.00)	0.54 (1.80)	0.00 (1.94)	0.113
Output City	0.06 (1.16)	−0.03 (1.50)	−0.15 (1.36)	−0.35 (1.38)	0.03 (1.42)	0.39 (1.27)	0.00 (1.39)	0.067
Output Faro	−0.60 (2.34)	0.11 (2.15)	−0.21 (2.17)	−0.82 (2.39)	0.16 (2.12)	0.94 (1.80)	0.00 (2.20)	0.002
Outcome City	−0.75 (4.12)	−0.22 (4.11)	0.10 (3.16)	−0.38 (4.21)	0.21 (4.44)	1.00 (3.71)	0.01 (4.09)	0.223
Outcome NGOs	−0.55 (5.58)	0.27 (5.27)	−0.46 (5.84)	−2.08 (6.82)	−0.08 (5.61)	3.16 (5.01)	0.07 (5.76)	0.001
Impact Awareness	−0.28 (3.79)	−0.28 (4.25)	−0.47 (3.86)	−0.99 (4.18)	0.11 (4.46)	2.07 (3.51)	0.00 (4.96)	0.002
Impact City	−0.69 (5.09)	0.27 (4.84)	−1.05 (4.58)	−1.65 (4.92)	0.05 (5.14)	2.49 (4.09)	0.00 (4.20)	0.000

* In red (blue) signaled significant lower (larger) than all average scores. In bold significant results at 5% level.

Table 3S. Comparative study of average indicators by level of studies (standard deviation between parentheses)*

Indicator	Primary	Secondary	University	All	Kruskal-Wallis p-value
Input	0.03 (1.28)	0.11 (1.52)	−0.10 (1.59)	0.00 (1.50)	0.545
Output EXPO	0.14 (1.84)	0.15 (1.97)	−0.19 (1.96)	0.00 (1.94)	0.103
Output City	0.06 (1.48)	0.10 (1.28)	−0.12 (1.43)	0.00 (1.39)	0.299
Output Faro	0.44 (2.14)	0.08 (2.18)	−0.30 (2.22)	0.00 (2.20)	0.023
Outcome City	0.18 (3.81)	0.39 (4.06)	−0.38 (4.25)	0.01 (4.09)	0.261
Outcome NGOs	1.04 (5.45)	0.34 (5.76)	−0.67 (5.87)	0.07 (5.76)	0.047
Impact Awareness	1.15 (3.74)	0.42 (4.27)	−0.96 (4.18)	0.00 (4.96)	0.000
Impact City	0.17 (4.90)	0.47 (4.96)	−0.47 (4.97)	0.00 (4.20)	0.213

* In red (blue) signaled significant lower (larger) than all average scores. In bold (light) significant at 1% (5%) level. In bold significant results at 5% level

Table S4. Comparative study of average indicators by employment situation (standard deviation between parentheses)*

Indicator	Housewife	Student	Salaries	Autonomous	Retired	All	Kruskal-Wallis p-value
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Input	0.54 (1.17)	−0.50 (1.52)	0.06 (1.48)	0.22 (1.78)	−0.01 (1.44)	0.00 (1.50)	0.000
Output EXPO	0.48 (1.83)	−0.32 (1.96)	0.01 (1.95)	0.00 (1.82)	0.07 (2.05)	0.00 (1.94)	0.044
Output City	0.35 (1.32)	−0.27 (1.36)	0.06 (1.39)	−0.05 (1.45)	−0.14 (1.50)	0.00 (1.39)	0.016
Output Faro	0.89 (2.02)	−0.69 (2.33)	0.05 (2.14)	0.12 (2.07)	0.12 (1.99)	0.00 (2.20)	0.002
Outcome City	1.03 (4.34)	−0.53 (4.11)	−0.02 (3.88)	0.48 (4.71)	−0.54 (3.78)	0.01 (4.09)	0.028
Outcome NGOs	1.59 (5.18)	−1.24 (5.99)	0.23 (5.57)	−0.09 (6.73)	0.53 (5.62)	0.07 (5.76)	0.044
Impact Awareness	0.87 (4.24)	−0.70 (4.04)	0.01 (4.29)	0.08 (4.43)	0.41 (3.61)	0.00 (4.96)	0.128
Impact City	1.45 (4.44)	−1.18 (4.84)	0.22 (5.00)	−0.05 (5.81)	−0.23 (4.39)	0.00 (4.20)	0.016

* In red (blue) signaled significant lower (larger) than all average scores. In bold significant results at 5% level.

Table S5. Comparative study of average values of items by sex and age (standard deviation between parentheses)*.

Indicator	Item	Men up to 25	Men 26 up to 55	Men over 55	Women up to 25	Women 26 up to 55	Women over 55	All	Kruskal-Wallis p-value
Input	p.17_1	5.13 (1.00)	5.42 (1.21)	5.22 (1.09)	4.94 (1.31)	5.29 (1.14)	5.62 (0.99)	5.30 (1.15)	0.035
	p.17_2	4.89 (1.25)	5.19 (1.36)	5.10 (1.30)	4.87 (1.27)	5.25 (1.21)	5.79 (1.03)	5.20 (1.27)	0.002
	p.17_4	5.48 (1.05)	5.75 (1.16)	5.94 (1.03)	5.28 (1.54)	5.88 (1.03)	6.30 (0.85)	5.79 (1.15)	0.000
	p.17_6	4.84 (1.21)	5.22 (1.19)	5.33 (1.18)	4.85 (1.42)	5.30 (1.20)	5.74 (1.13)	5.23 (1.24)	0.002
Output EXPO	p.08_4	5.15 (1.46)	5.47 (1.42)	5.49 (1.53)	5.02 (1.58)	5.45 (1.54)	5.80 (1.41)	5.42 (1.50)	0.060
	p.08_5	5.89 (1.17)	6.10 (1.06)	6.02 (1.22)	6.02 (1.31)	6.04 (1.14)	6.22 (1.08)	6.06 (1.14)	0.739
	p.08_7	4.67 (1.40)	4.64 (1.29)	4.62 (1.29)	4.55 (1.14)	4.67 (1.33)	5.23 (0.99)	4.71 (1.27)	0.049
Output City	p.09_1	4.59 (1.69)	4.82 (1.63)	4.52 (1.80)	4.67 (1.58)	4.81 (1.63)	5.24 (1.53)	4.79 (1.64)	0.253
	p.09_3	3.13 (1.49)	3.24 (1.78)	3.38 (1.71)	3.49 (1.67)	3.11 (1.74)	2.85 (1.60)	3.19 (1.70)	0.319
	p.09_4	2.61 (1.26)	2.79 (1.69)	2.86 (1.49)	3.16 (1.53)	2.71 (1.61)	2.33 (1.40)	2.75	0.062

							(1.56)	
Output FARO	p.17_3	4.27 (1.26)	4.61 (1.41)	4.51 (1.40)	4.11 (1.37)	4.60 (1.25)	5.08 (1.14)	4.56 (1.33) 0.004
	p.17_5	4.16 (1.54)	4.59 (1.41)	4.33 (1.38)	4.06 (1.60)	4.64 (1.46)	5.06 (1.29)	4.52 (1.46) 0.009
Outcome City	p.08_1	5.09 (1.33)	5.25 (1.34)	5.38 (0.99)	5.16 (1.36)	5.37 (1.47)	5.60 (1.27)	5.31 (1.34) 0.293
	p.08_6	5.74 (1.26)	5.85 (1.20)	5.82 (1.00)	5.93 (1.23)	5.94 (1.20)	6.16 (0.86)	5.91 (1.15) 0.497
Outcome NGOs	p.17_7	4.69 (1.49)	4.76 (1.28)	4.64 (1.34)	4.17 (1.68)	4.71 (1.33)	5.38 (1.36)	4.73 (1.41) 0.002
	p.17_8	5.02 (1.21)	5.20 (1.21)	5.02 (1.38)	4.77 (1.53)	5.14 (1.30)	5.85 (1.06)	5.17 (1.30) 0.001
Impact Awareness	p.08_2	4.52 (1.28)	4.36 (1.26)	4.44 (1.15)	4.13 (1.43)	4.54 (1.44)	5.15 (1.14)	4.50 (1.33) 0.002
	p.08_3	4.05 (1.29)	4.18 (1.43)	3.98 (1.33)	3.98 (1.279)	4.23 (1.43)	4.83 (1.07)	4.21 (1.36) 0.007
Impact City	p.08_8	5.10 (1.33)	5.14 (1.23)	5.02 (1.20)	4.87 (1.35)	5.13 (1.38)	5.78 (1.06)	5.17 (1.29) 0.006
	p.08_9	4.67 (1.51)	5.06 (1.38)	4.65 (1.33)	4.46 (1.44)	4.98 (1.43)	5.61 (1.22)	4.95 (1.42) 0.000

* In red (blue) signaled significant lower (larger) than all average scores. In bold significant results at 5% level

Table S6. Comparative study of average values of items by level of studies (standard deviation between parentheses)*.

Indicator	Item	Primary	Secondary	University	All	Kruskal-Wallis p-value
Input	p.17_1	5.31 (0.98)	5.34 (1.21)	5.26 (1.20)	5.30 (1.15)	0.747
	p.17_2	5.23 (1.18)	5.26 (1.27)	5.13 (1.33)	5.20 (1.27)	0.752
	p.17_4	5.73 (1.07)	5.97 (1.08)	5.68 (1.23)	5.79 (1.15)	0.059
Output EXPO	p.17_6	5.31 (1.20)	5.20 (1.15)	5.22 (1.33)	5.23 (1.24)	0.758
	p.08_4	5.66 (1.29)	5.51 (1.52)	5.21 (5.21)	5.42 (1.50)	0.041
	p.08_5	5.97 (1.21)	6.12 (1.11)	6.06 (1.13)	6.06 (1.14)	0.626
Output City	p.08_7	4.87 (1.30)	4.81 (1.13)	4.55 (1.35)	4.71 (1.27)	0.062
	p.09_1	4.81 (1.84)	4.97 (1.97)	4.65 (1.62)	4.79 (1.64)	0.156
	p.09_3	3.08 (1.76)	3.17 (1.68)	3.26 (1.68)	3.19 (1.70)	0.566
Output FARO	p.09_4	2.64 (1.64)	2.64 (1.42)	2.89 (1.61)	2.75 (1.56)	0.232
	p.17_3	4.84 (1.27)	4.60 (1.33)	4.37 (1.35)	4.56 (1.33)	0.018
	p.17_5	4.73 (1.46)	4.57 (1.43)	4.37 (1.48)	4.52 (1.46)	0.142
Outcome City	p.08_1	5.36 (1.26)	5.46 (1.31)	5.18 (1.40)	5.31 (1.34)	0.164
	p.08_6	5.97 (0.99)	5.87 (1.13)	5.90 (1.25)	5.91 (1.15)	0.781
Outcome NGOs	p.17_7	4.96 (1.29)	4.85 (1.40)	4.51 (1.46)	4.73 (1.41)	0.035
	p.17_8	5.36 (1.26)	5.19 (1.31)	5.06 (1.32)	5.17 (1.30)	0.180
Impact Awareness	p.08_2	4.88 (1.18)	4.64 (1.32)	4.19 (1.35)	4.50 (1.33)	0.000
	p.08_3	4.54 (1.26)	4.31 (1.39)	3.95 (1.35)	4.21 (1.36)	0.001
Impact City	p.08_8	5.27 (1.33)	5.23 (1.28)	5.06 (1.29)	5.17 (1.29)	0.273
	p.08_9	4.98 (1.38)	5.09 (1.38)	4.82 (1.47)	4.95 (1.42)	0.286

* In red (blue) signaled significant lower (larger) than all average scores. In bold significant results at 5% level.

Table S7. Comparative study of average values of items by employment situation*.

Indicator	Item	Housewife	Student	Salaried	Autonomous	Retired	All	Kruskal-Wallis p-value
Input	p.17_1	5.34 (1.01)	5.13 (1.17)	5.37 (1.14)	5.37 (1.42)	5.27 (1.15)	5.30 (1.15)	0.441
	p.17_2	5.75 (1.01)	4.85 (1.25)	5.23 (1.26)	5.29 (1.51)	4.95 (1.27)	5.20 (1.27)	0.000
	p.17_4	6.03 (0.90)	5.38 (1.32)	5.85 (1.08)	6.17 (1.15)	5.84 (1.09)	5.79 (1.15)	0.001
	p.17_6	5.67 (1.19)	4.88 (1.30)	5.21 (1.19)	5.26 (1.17)	5.57 (1.17)	5.23 (1.24)	0.001
Output EXPO	p.08_4	5.87 (1.29)	5.14 (1.43)	5.40 (1.56)	5.38 (1.62)	5.57 (1.41)	5.42 (1.50)	0.016
	p.08_5	6.16 (1.06)	5.97 (1.25)	6.08 (1.10)	6.11 (0.91)	5.92 (1.40)	6.06 (1.14)	0.956
	p.08_7	5.01 (1.16)	4.48 (1.25)	4.69 (1.32)	4.64 (1.18)	5.03 (1.28)	4.71 (1.27)	0.018
Output City	p.09_1	5.39 (1.46)	4.61 (1.64)	4.73 (1.61)	4.86 (1.69)	4.51 (1.92)	4.79 (1.64)	0.012
	p.09_3	2.82 (1.63)	3.46 (1.63)	3.09 (1.72)	3.51 (1.73)	3.27 (1.79)	3.19 (1.70)	0.031
	p.09_4	2.43 (1.40)	3.05 (1.53)	2.67 (1.57)	2.70 (1.70)	2.89 (1.63)	2.75 (1.56)	0.044
Output FARO	p.17_3	4.99 (1.12)	4.23 (1.34)	4.55 (1.29)	4.53 (1.66)	4.78 (1.38)	4.56 (1.33)	0.008
	p.17_5	5.11 (1.33)	4.09 (1.54)	4.55 (1.44)	4.63 (1.37)	4.46 (1.33)	4.52 (1.46)	0.002
Outcome City	p.08_1	5.61 (1.41)	5.14 (1.37)	5.33 (1.28)	5.41 (1.52)	5.11 (1.22)	5.31 (1.34)	0.043
	p.08_6	6.10 (1.08)	5.82 (1.19)	5.84 (1.14)	6.16 (1.26)	5.92 (1.09)	5.91 (1.15)	0.102
Outcome NGOs	p.17_7	5.03 (1.27)	4.44 (1.58)	4.78 (1.33)	4.76 (1.48)	4.75 (1.42)	4.73 (1.41)	0.193
	p.17_8	5.51 (1.15)	4.91 (1.31)	5.20 (1.27)	5.03 (1.60)	5.31 (1.33)	5.17 (1.30)	0.047
Impact Awareness	p.08_2	4.73 (1.36)	4.30 (1.35)	4.50 (1.33)	4.54 (1.46)	4.65 (1.06)	4.50 (1.33)	0.325
	p.08_3	4.51 (1.30)	4.00 (1.29)	4.21 (1.43)	4.17 (1.38)	4.32 (1.27)	4.21 (1.36)	0.146
Impact City	p.08_8	5.49 (1.16)	4.94 (1.27)	5.21 (1.33)	5.16 (1.42)	5.03 (1.18)	5.17 (1.29)	0.071
	p.08_9	5.34 (1.26)	4.60 (1.40)	5.00 (1.44)	4.92 (1.64)	5.00 (1.21)	4.95 (1.42)	0.019

* In red (blue) signaled significant lower (larger) than all average scores. In bold (not bold) significant at 1% (5%) level.