



*The **methodology** enabling the **citizens interaction** is itself a commons:*

*supplying and monitoring the public goods with a “set of rules is the
equivalent of providing another public good”*

E. Ostrom quoting Bates and Elster (1988-89)

Cooperation in literature

The term “cooperation” is currently used as “exchange”, “collusion”, “generic collaboration”, “compromise”, “altruism”, “win-win dynamics”, “do-ut-des”...

Altruism? Compromises to get what you want?
Let's do a “good thing”?

Sources: Ostrom, Bowels, Gintis, Tyler, Tomasello, Sanfey, Damasio, Tuomela, Page, Surowieki, Cotesta, Grice, Axelrod, Hammerstein, Mauss, Mead

Type of interaction	Condition(s) not fulfilled	“Cooperation” misused as
Altruism [Egoism]	<i>Equivalence - real benefits</i>	altruism or egoism
Opportunism, mere exchange	<i>Care - relational benefits</i>	do-ut-des
Fraud	<i>Transparency</i>	fake collaboration
Collusion, organized crime	<i>Neutrality</i>	collusion
Slavery/obligation/forced labour	<i>Freedom of choice</i>	obligation
Fanaticism	<i>Diversity</i>	homologation
Mobbing, threat	<i>Trust</i>	manipulation
Competitive collaboration	<i>Common codes</i>	generic collaboration

The social representation

What is the meaning of cooperation?

Can you tell me an example of cooperation that happened in your life?

Clusters identified cultural concepts like **family**, nest; **power**, **obligation**; creativity, **individualism**; **everyday cooperation**; **selfishness** and **mutual** achievement; group as a **pair**.

This shows different ways of “colouring” **emotionally** the cooperation construct

“In every game, in my rugby team, everybody collaborate to win and score”

Family, nest cultural concept cluster.
“Competitive” background



“When Iowa State University was planning events to celebrate the 150th anniversary [...] I saw great cooperation among the various representatives”

Selfishness and mutual achievement cultural concept cluster.
“Collaborative” background

The 7 indicators in a context quantitative measurement approach

Indicator:	Peace/Devel	One vs. 50 PLS models, many different data sources (preliminary results)
Equivalence	+, private	seems to positively affect absence of private conflicts
Trust	+, group	it's quite effective in bringing good behaviour between groups
Care	+ ~ eq	general effective indicator, overlaps with equivalence
Transparency	risky +	positive correlation with great risks and difficult identification (leaks)
Freedom	tiny +	slight effects on absence of conflicts, could be strong on development
Common Codes	edu?	What can make connections between diverse codes and cultures?
Diversity	- when alone	Potential of conflict and potential of development

Cooperation is acting together neutrally with mutual enjoyment

Enjoy your food, your rights, your income, your relationships, enjoy your **city**:

Cooperation represents the *quality* of the **citizens interaction** commons

Cooperation theory can *observe* the quality of commoning

A possible mathematical model

If $n > 1$ individuals are interacting, for $i = 1$ to n , **$e_i(t) = b_i(t) + r_i(t) > 0$** is the total enjoyment for the individual i .

Group **average enjoyment**(left) would continuously(right) influence the individual one: a neutral interaction is *cooperative* when there is mutual enjoyment(last).

$$E_{avg}(t) = \sum_{i=1}^n e_i(t) / n$$

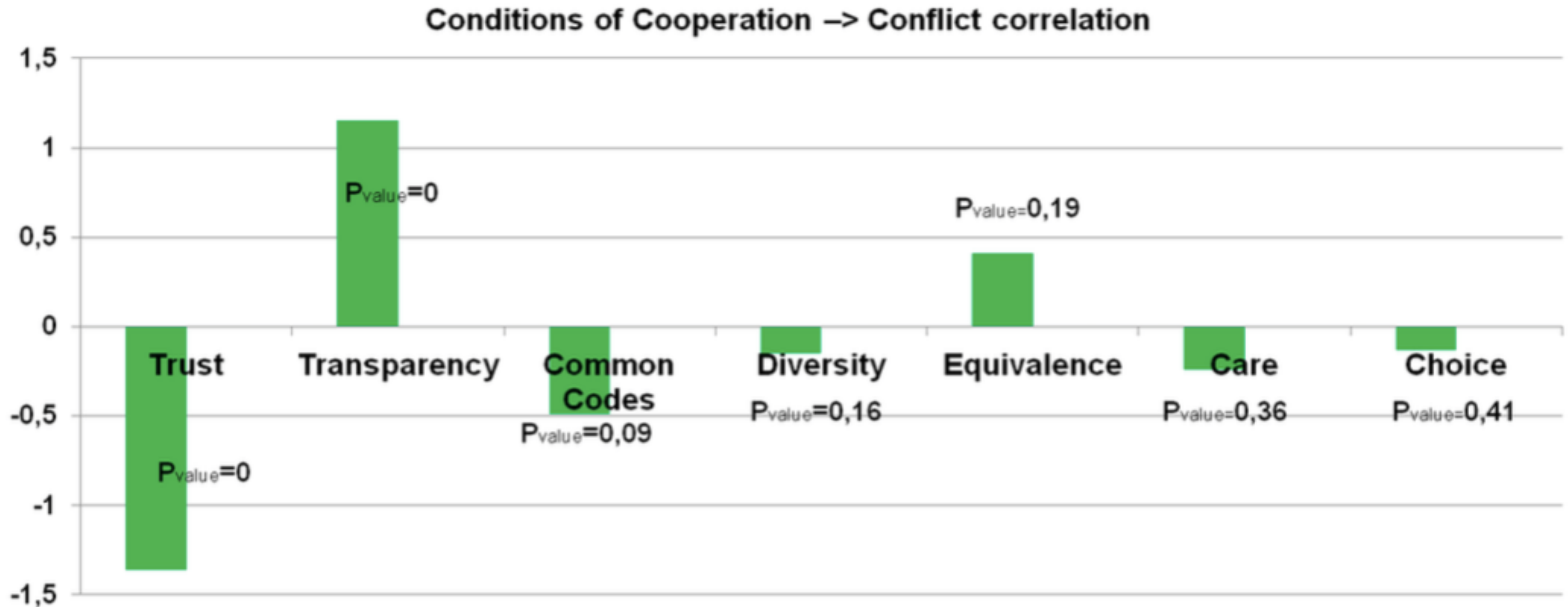
$$d(b_i(t), r_i(t)) = \int_0^t f(b_i(s), r_i(s), E_{avg}(s)) ds$$

$$e_{i,t} \simeq E_{avg,t} > 0$$

Urban Commons and Cooperation

The first commons of a city is the possible good interaction of its **citizens**
they need **equivalent** *real* and *relational* benefits to interact for the common good
their **diversity** needs to be **acknowledged** and **supported** as their *roles*:
it is the strongest drive of *collective intelligence*
the commons **contexts** and **methodologies** could be *observed* in terms of
cooperation to see where the *mutual enjoyment* is blocked and where it is **alive**

The 7 indicators and their initial PLS correlation with conflict



Refer to slide 6 for updated results on transparency and common codes

Facebook group real and relational benefits analysis

The average trend predicts development and participation independently from gross participation:
compare users and users on the average

	year	Posts	Users	avg Real Benefit	Users below avg	Users on the avg	Users above avg	avg Relational Benefit	Users below avg	Users on the avg	Users above avg	r/b
Collective intelligence English Group	2013	231	107	26,5	93	11	3	6,11	102	3	2	0.219
	2014	511	361	17,47	341	13	7	9,24	350	5	6	0.521
	Half 2015	334	567	9,18	489	55	23	6,12	536	22	9	0.663
Oui Share Labs	2013	205	114	24,3	84	18	12	8,11	86	15	13	0.351
	2014	341	175	27,42	147	13	15	10,15	144	14	17	0.364
	Half 2015	69	94	10,23	79	5	10	4,9	80	5	9	0.401

$$e_{i,t} \simeq E_{avg,t} > 0$$