Capturing Citizens' Opinions Through a Combination
of Survey and Online Social Data

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This article aims to contribute to the debate on citizen participation by illustrating, with an operational example, how it may be more effectively achieved using a combination of survey and online social data. We focus on a project the purpose of which was to arrive at a formulation of planning policies based on a sharing process between the council and citizens of the small municipality of Peccioli in Tuscany, Italy. The aim was to increase participation by collecting opinions on long-term projects. The combination of survey and online social data enabled the collection of more accurate insights on participation, providing the municipality with a reliable representation of citizens' sentiments and opinions. This article, although locally rooted, demonstrates how planning authorities more widely can enhance participation by taking advantage of both analog and digital methods.

Keywords: political participation, civic engagement, online social data, survey, mixed methods, urban planning, inclusive process

The aim of this article is to contribute to the discussion about participation in democratic life. It does so by proposing a mixed mode of data collection, combining traditional and digital methods. This approach integrates qualitative methods usually applied in this domain with quantitative methods typical of much sociological research. Such methodological enrichment aims to enhance citizen participation in public administration. Practically, its purpose is to strengthen inclusivity through allowing engagement by groups that otherwise may be unable or unwilling to attend public meetings. To this end, we introduce an ad hoc

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onsite survey, in addition to the use of online social data (OSD) generated by citizens within the local Facebook group. Our endeavor addresses two weaknesses in the majority of participatory processes implemented so far: the nonrepresentativeness of survey samples and uninformed answers by citizens.

We base our analysis on a project studying participation in Peccioli, a territory in Tuscany, Italy (4,047 inhabitants). The municipality of Peccioli comprises a rural area with eight villages: Peccioli (2,462 inhabitants), Fabbrica (734), Ghizzano (293), Legoli (232), Montecchio (177), Montelopio (74), Libbiano (49), and Cedri (26). The purpose of the project—commissioned by the local administration—was to assist in formulation of planning policies in a process shared between the council and its citizens. The municipality needed to collect opinions and suggestions on 19 proposals, as regional legislation requires that administrators involve not only development professionals, but also the subjects of local interventions.

Aware of problems encountered in involving citizens in decision making, we tried to reshape methodological tools conceived in a predigital era (Farinosi, Fortunati, O'Sullivan, & Pagani, 2019) and then combine them with digital methods (Hope, 2016; Rogers, 2019). Our purpose was to evaluate whether, with updated analog tools hybridized with digital tools, we could more representatively capture opinions and attitudes.

We applied several methods: face-to-face data collection, consisting of open- and closed-ended questions administered to a representative sample of inhabitants of the municipality ($N = 161$), collected partly through in-person questionnaire administration in Peccioli village ($n = 99$) and Fabbrica ($n = 35$) and partly during seven focus group discussions conducted in the smaller village areas ($n = 27$); content analysis of articles in the online local newspaper *Qui News Valdera* from January 2017 to April 2018; and analysis of a year's posts in the public Facebook group "Sei di Peccioli se . . ." ("You are from Peccioli, if . . ."). The latter is an online space that, given the volume of OSD generated by users, represents a complementary source of information for urban planning.

Due to space constraints, this report is confined to illustrating the closed-ended questions of the questionnaire administered to a representative sample of citizens and some digital traces regarding the village.

The article is structured as follows: The subsequent sections present a discussion of prior research findings about deliberative participation, rationales for using OSD and a detailed critical discussion on these, and the advantages of mixed methods. Then we illustrate operationally the method adopted and present our findings. The final discussion focuses on highlighting the key outcomes achieved by the combination of these methods, with remarks on the strengths and weaknesses of the approach.

Participatory Urban Planning

Existing theories suggest that it is possible to identify varying levels of citizen involvement in urban planning. Arnstein (1969), in a foundational text, describes a ladder of participation with eight steps (manipulation, therapy, informing, consultation, placation, partnership, delegated power, citizen control). Each step metaphorically corresponds to the extent of citizens' power in determining the plan. Only by climbing the ladder can citizens acquire effective power. Although Arnstein's model has been modified by

many authors (e.g., see Doolittle & Faul, 2013), such updates have not prevented criticism of her classification. Fung (2006) proposes a more contemporary framework: the "democratic cube." In the democratic cube, any mechanism of public decision can be located in a space constituted by three dimensions: scope of participation, mode of communication and decision, and extent of authority. The model's design serves three democratic values: legitimacy, justice, and effectiveness of public action.

The great majority of models elaborated so far agree on three phases indispensable for activating political mechanisms capable of interacting constructively with the social fabric: informative level, advisory level, and deliberative level. The informative level is scarcely interactive, but essential for generating civic awareness, understood as the ability to make responsible choices (Voogd & Woltjer, 1999). Thus, we posed our first research question:

RQ1:   *How can we generate more civic awareness among citizens in order to enhance their ability to make responsible choices?*

This level represents the first step taken by an administration toward the introduction of more elaborate mechanisms of public involvement. Every expression of participatory democracy requires a commitment to information, which may influence the subsequent course of the outputs of the process.

But information alone is not enough; for effective participation, there must also be interaction and negotiation between the government and public. These constitute the components of the advisory level, during which active listening (Sclavi, 2002) to citizens serves for collecting opinions, judgments, and ideas, and identifying people's real needs (Rowe & Frewer, 2000; Smith, 1983). Thus, we formulated our second research question:

RQ2:   *Through which strategies can we improve active listening to citizens in order to collect their opinions, evaluations, and needs more effectively?*

Citizens' contributions can be influenced by several factors, both individual and social; therefore, it is fundamental to include as many as possible in the participatory process, trying also to involve the so-called "silent majority," those who usually do not participate (G. Allegretti, 2002; Urbinati, 2014).

Finally, during the deliberative level, the most delicate and controversial phase, there is a recognition and enhancement by public decision makers of the collaborative skills of the various actors of civil society. The inputs emerging from the previous level are elaborated to arrive at a final decision, which should be as responsive as possible to citizens' expectations and shared desires. Thus, we posed our third research question:

RQ3:   *How can we contribute to the recognition of citizens' wishes by local authorities?*

Nowadays, a wide spectrum of methods and techniques of participatory urban planning is available (Wates, 2006), such as action planning (Hamdi & Goethert, 1997), planning for real (Gibson, 1998), or open space technology (Owen, 1993). The methodological toolkit is evolving rapidly, and new methods continue

to be tested to overcome limitations. In particular, in this article, we focus on two such limitations: nonrepresentativeness of samples and uninformed citizen input.

Regarding the first, it should be noted that those willing to participate usually form a tiny fraction of the population, often characterized by a high level of education. There may be different reasons for not participating, such as lack of time, lack of interest, or low trust in institutions (Victor, 2016; Walters, Aydelotte, & Miller, 2000). The consequence of self-exclusion is that some groups, such as women, the elderly, immigrants, and people with disabilities, risk not being represented, but others are overrepresented (Martínez Palacios, 2016). To avoid implementing decisions influenced by unrepresentative minorities, it is necessary to ensure a certain heterogeneity.

Regarding the second issue, a strategy needs to be implemented to convey information on projects, allowing citizens to have a common knowledge base (Bolles, 2013). Usually, citizens are invited to express their opinions without robust information. Consequently, their responses, based on incomplete or incorrect information, could give rise to equally unreliable survey data. Only through diligent information work and an effort to simplify the language of bureaucratic and professional communication can local authorities aspire to the fullest inclusion.

To overcome these limits, scholars and experts have designed forms of political consultation aimed at constructing hypothetical representations of what public opinion on a particular issue might look like if citizens were better informed. Crosby (1995) introduced the citizens' jury model, a form of a deliberative minipublic in which a small group is randomly selected to deliberate on a specific issue. Prior to meeting, group members receive an information pack with material on the topic; during the meeting, they hear information and evidence from experts and stakeholders, developing a deeper understanding of the various complexities. At the end of the process, they provide a report detailing their recommendations to the organizing entity. Another participatory democratic innovation was promoted by Fishkin (1991), who developed deliberative polling, in which a random sample of the population is first exposed to balanced information, encouraged to weigh opposing arguments in discussions with heterogeneous interlocutors, and then gives its opinions. The Canadian Policy Research Networks (2005) elaborated "Citizen Dialogues," a technique based on the Choice Dialogue method, in which a randomly selected sample of 20 citizens is informed on a particular policy issue via written materials, and then meets for one or two moderated sessions of group discussion, with the results relayed to policymakers.

The ideas behind these models motivated our study. However, we considered it appropriate to innovate and modify them, combining traditional analog tools with the new opportunities offered by digital platforms and OSD (Resch, Summa, Zeile, & Strube, 2016; Williamson & Parolin, 2013).

Exploiting Online Social Data for Research

As mentioned above, we included OSD, data generated in the process of platform-mediated interactions in a mutual shaping of platform and society (van Dijck, Poell, & de Waal, 2018). In recent years, physical public spaces have been augmented by digital spaces, as citizens increasingly use social media to voice opinions. Evans-Cowelly and Hollander (2010) recommend that researchers of citizen participation explore the

effectiveness and efficiency of online tools. In this vein, we sought to strengthen our research design by combining not only different approaches (qualitative and quantitative), but also onsite and online tools.

A body of research has shown that online environments exhibit additional possibilities for discussion and participation, and that communication technologies lead to increased interaction in local communities (e.g., Afzalan & Evans-Cowley, 2015; Fredericks & Foth, 2013). Social platforms allow citizens to be more than consumers of political information, affording them the ability to create their own content, comment on others' posts, and contribute with grassroots news (Boulianne, 2015; Gordon & Manosevitch, 2011; Pasek, More, & Romer, 2009). Much of this activity leaves digital traces, making possible research at a large scale until recently inconceivable (Jungherr, 2015). Researchers unobtrusively can access citizens' opinions, feelings, needs, and concerns (Golder & Macy, 2014) to better understand social, political, and economic behavior. This new type of data does not lend itself as readily to analysis as does that gathered explicitly with a targeted research question in mind. It is produced for reasons other than social scientific inquiry (Kitchin, 2014).

In methodological terms, online footprints may be treated as a broader category of data that has long been used for social research: observational data. Use of such data calls for innovative methodological approaches from disciplines including but extending beyond social science. It combines informational practices (e.g., follower, like, or mention counts) with a range of analytical methods from data mining to social network analysis (Marres, 2012).

Although freely accessible and commercial tools have been developed to interrogate digital interactions (for an exhaustive analysis, see Batrinca & Treleaven, 2015), a systematic discussion of how various instruments deal with digital trace data remains elusive. Undoubtedly, there are great advantages in using such data (e.g., convenience, cost, the capacity to explore sensitive topics in new ways), but they also present new challenges (Snee, Hine, Morey, Roberts, & Watson, 2016). According to Manovich (2011), for example, we need to be wary of taking digital content as "authentic." Posts, comments, and photos do not transparently reflect what people think and do, but often are carefully tailored and systematically managed (Ellison, Heino, & Gibbs, 2006).

The literature has identified various types of limitations on which we cannot dwell here, from design (Giglietto, Rossi, & Bennato, 2012) to algorithmic (Brooker, Barnett, Cribbin, & Sharma, 2016), and from economic (Bruns & Burgess, 2016) to ethical (Association of Internet Researchers, 2012). Here, two aspects are of particular relevance: (1) content quality and (2) coverage bias and data representativeness. Related to the former, digital trace data often lack the depth to answer any one question (Lukyanenko, Parsons, & Wiersma, 2014). According to Goodspeed (2013), "Social media data alone has limited potential to contribute to new theoretical understanding of social life in cities" (p. 2). Regarding bias and representativeness, it is worth remembering that the Internet user population constitutes a skewed sample of the population (Hewson, Yule, Laurent, & Vogel, 2003; Venturini & Latour, 2010).

The limitations described do not mean that digital trace data are inferior to other types of data, rather that these constraints have to be taken into account. In particular, the combination of onsite survey and online data can work effectively to repair such problems.

Mixed Research Methods

The combination of different data types is not a novelty. The use of several methods, especially in qualitative research, has long been theorized within the "triangulation" approach (Denzin, 1978; Jick, 1979). The more complex a society becomes, the more it is necessary to make use of diverse methods to capture various dimensions of the same phenomenon, involving different types of samples, as well as different methods for cross-validating data. The notion of triangulation is borrowed "from navigational and land surveying techniques that determine a single point in space with the convergence of measurements taken from two other distinct points" (Rothbauer, 2008, p. 893). Behind triangulation there is the idea that one is more confident toward a result that has been obtained with different methods (Johnson & Turner, 2003). Denzin (1978) identifies four basic types of triangulation: The first concerns data triangulation, which involves time, space, and persons; the second is investigator triangulation, which brings multiple researchers to an investigation; the third is theory triangulation, which invokes several theoretical schemes for meaningful interpretation; and the fourth is methodological triangulation, which implicates the use of various methods to collect data, such as interviews, observations, questionnaires, and documents.

Another strand of methodological thought is that which developed around the concept of mixed methods. Such research is defined as analysis in which the researcher collects and integrates different kinds of data in a single study, using both qualitative and quantitative approaches, in order to obtain richer data (Teddlie & Tashakkori, 2009).

What is new in the present study is that, although with triangulation and mixed methods the various approaches selected belong to the same analog paradigm, here we aim to establish a hybrid methodology by combining methods coming from two different paradigms—analog and digital, with all the opportunities and risks that such a choice implies.

Method, Samples, and Measures

Given the richness of the data collected, our report here is confined to the presentation of findings emerging from the closed-ended questions of the questionnaire that we administered to citizens in the village of Peccioli and the data related to an online group focused on the village. Of the 19 proposals identified by the local administration and investigated in our research, seven that were considered to be of strategic significance are discussed here. For the onsite survey, respondents were randomly extracted from the municipal registry following a probabilistic stratified sampling with proportional allocation. In determining the sample, an error margin of ±5% was calculated with a confidence level of 95%, indicating a size of 350. Strata were based on three classical sociodemographic variables: gender (male, female), generations (Silent Generation, born between 1930 and 1940; Baby Boomers, 1941–1960; Generation X, 1961–1980; Generation Y, 1981–1998), and place of residence (Peccioli, Fabbrica, Ghizzano, Legoli, Montecchio). The response rate was 46%; thus, the final size of the sample was 161, given that it was not possible to use other means (e.g., home visits) to involve citizens who did not participate. This selection aimed to construct a "miniature representation" of the community (Sintomer, 2007), with a mix of citizens characterized by different experiences, skills, and knowledge, thus lending greater legitimacy

to the opinions expressed. However, given consistent self-exclusion, the final sample presented some bias whereby some categories were overrepresented. Despite this limitation, the survey allowed a less elitist composition of participants and reduced the disproportionate presence of people with a high level of education, typical of the great majority of participatory processes described in the literature (Bobbio & Pomatto, 2007). Random selection yields wider inclusion than other methods, such as the open door method, based on the spontaneous and voluntary adhesion of citizens, or targeted selection, which seeks artificially to construct a microcosm reflecting the full range of positions and interests of the reference population (Sintomer, 2007).

The questionnaire comprised three sections concerning (1) sociodemographic characteristics of respondents, (2) evaluation of the projects proposed by the municipality, and (3) sources of information. The sociodemographic characteristics of the sample selected in Peccioli village (*n* = 99) are illustrated in Table 1.

Table 1. Respondents' Sociodemographic Profile in Peccioli (n = 99).

Sociodemographic variable	Peccioli's village sample (n = 99)		Peccioli's village population (N = 2,462)
	n	%	%
Gender			
Male	50	50.5	47.6
Female	49	49.5	52.4
Generation			
Silent Generation (1930–1940)	14	14.1	15.3
Baby Boomers (1941–1960)	34	34.3	29.3
Generation X (1961–1980)	38	38.4	38.4
Generation Y (1981–1998)	13	13.1	17.0
Marital status			
Unmarried	7	7.1	N/A
Married or cohabitants	80	80.8	N/A
Divorced or separated	4	4.0	N/A
Widowed	8	8.1	N/A
Education			
Elementary license	30	30.3	N/A
Secondary school diploma	16	16.2	N/A
High school diploma	35	35.4	N/A
Degree or higher	18	18.2	N/A
Activity			
Employed	50	50.5	N/A
Unemployed	2	2.0	N/A
Homemaker	5	5.1	N/A
Retired	39	39.4	N/A
Student	3	3.0	N/A

Residence typology			
Historical center	23	23.2	N/A
New inhabited center	37	37.4	N/A
Periphery	39	39.4	N/A
Years of residence			
> 15 years	78	78.8	N/A
6–15 years	12	12.1	N/A
1–5 years	8	8.1	N/A
< 1 year	1	1.0	N/A
Family typology			
Couple with children	66	66.7	N/A
Couple without children	14	14.1	N/A
Alone	10	10.1	N/A
Mixed family	7	7.1	N/A
Single-parent family	2	2.0	N/A
Family with			
Self-sufficient elderly	9	9.1	N/A
Dependent elderly	2	2.0	N/A
People with disabilities	7	7.1	N/A

Regarding the second section, we asked citizens to evaluate the projects on a 5-point Likert scale, with the following questions: To what extent do you agree with the need to renovate the historical school building located in Carraia Street? To what extent do you think that the second public lift in the multilevel car park could contribute to improving the historical center? To what extent do you think that the new pedestrian walkway (a 135-m bridge) could contribute to improving the historical center? To what extent do you think that the realization of the Villaggio Belvedere (an ecovillage experiment) is important for the improvement of the quality of life and the promotion of Peccioli and its surroundings? To what extent do you think that the realization of the renovation of the chapel, with the fresco by the renaissance painter Benozzo Gozzoli, could have a positive impact in terms of attracting tourists? To what extent do you think that the video surveillance project "Safe Peccioli" could contribute to raising the perception of security on the part of the population? To what extent do you think that the activities conducted by the Belvedere company (a subsidiary of the municipality) can be considered strategic for the future development of Peccioli?

For the third section, we analyzed a question posed after mention of each project: Where did you get the news from? with open answers. The main categories emerging were word of mouth, meetings with municipal administrators, local media, social media platforms, posters in public areas, and technical meetings organized by the administration for professionals in the construction sector.

To overcome problems experienced in traditional surveys related to citizens' participation, such as the fact that usually the researcher cannot rely on solid participant knowledge of proposals, we reshaped the survey structure, introducing an informative level. The main aim was, before seeking their evaluations,

to give participants objective, accurate, and unbiased information on the municipality's proposals. We first provided them with detailed information about the projects and, in turn, asked them to express their views.

For the presentation of proposals, we followed a written text based on objective information received from the municipality. In this way, all interviewees were exposed to identical material and provided opinions based on informed knowledge. Such knowledge is vital to citizens, not only to respond adequately to questions and to enter into a critical dialogue with proposals, but also to facilitate responsible evaluation. Face-to-face data collection was conducted between May and July 2017. A tablet device was used to show renderings of the projects. As highlighted by Gordon and Manosevitch (2011), one of the main obstacles encountered during endeavors to involve citizens in urban planning (Forester, 1999; Healey, 1996) is attributable to the challenge that participants encounter in understanding spatial concepts (Barndt, 1998). The deployment of visual support in this study proved particularly useful in translating ideas into comprehensible representations and helping people understand better each project proposal. Examples of visual aids used during interviews are shown in Figures 1 and 2.

Figure 1. Rendering of the second lift in the municipal multilevel car park (designed by Alfonso Guiggi).

Figure 2. Rendering of the pedestrian walkway (designed by Luigi Aldiccioni and Adriano Guiggi).

The analysis reported here is based on descriptive statistics, chi-square tests, and paired-samples *t* tests. More sophisticated analyses were not possible because of the limited sample sizes.

With respect to the OSD, we focused only on those generated within the Facebook group "Sei di Peccioli se . . ." ("You are from Peccioli if . . ."). The group has 1,385 members (more than half of the residents). According to the introduction page, this group was created to discuss community-related matters and to share information about local events and activities; therefore, it is reasonable to suppose that its members are all inhabitants of the town or at most of neighboring villages or people linked to Peccioli for various personal or family reasons. This forum was chosen for the following reasons: (1) It was repeatedly named by citizens during interviews, (2) it comprises a fairly consistent number of inhabitants and is used daily by members, (3) it is the only online space of discussion about the village- and place-based issues, (4) its content is publicly accessible, and (5) it is not affiliated with any political grouping. To these data, we applied content analysis, a method for systematically capturing the meaning of written and visual communication (Altheide & Schneider, 2013; Weber, 1990). As first, we manually extracted all posts published from January 1 to December 31, 2017, categorizing the corpus of textual data both qualitatively and quantitatively. Our grid comprised the following sections: date, time, post author, post content, thematic area, type of content (text, photos, links, etc.), number of reactions, type of reactions (like, love, haha, wow, sad, angry), number of shares, number of comments, comment author, and comment content. This allowed us to determine themes most likely to be propagated by group members, to explore local knowledge in more detail, and to examine the purposes for which members use the space. Then, we selected only posts related to the municipality's proposals, with the

aim of capturing the substance of the debate within the group. Given that the Facebook group's publicness does not constitute an informed consent for research, we anonymized posts and comments.

The combination of survey and OSD provided a different illumination of both analog and digital data, with the ability to obtain richer and more accurate information on participation.

None of the methods applied to Peccioli depends on any unique characteristic, including scale, of the research setting. As such, this hybrid can be useful in many settings internationally, independent of the size of the urban entity or the nature of the project proposed, and can easily be replicated, perhaps using appropriate software, for collection and analysis of larger volumes of OSD.

Results

The Informative Level

As reported above, our first research question was, How can we generate more civic awareness among citizens in order to enhance their ability to make responsible choices? We tried to increase citizens' knowledge, sharing with them the same objective information related to each project considered and showing them the renderings of each proposal.

Furthermore, in the survey, we explored previous knowledge by citizens on project proposals. By their nature, in respect of digital traces in Facebook, it was not possible to assess the previous level of citizens' information around the themes of their posts.

For reasons of space, here we focus on the two project proposals that emerged as the most controversial and most debated during the advisory level: Project 2, the construction of a second lift in the multilevel car park, capable of transporting autonomous electric vehicles, to allow citizens to move easily within the historical center while reducing traffic; and Project 3, the construction of the pedestrian walkway to connect the historical center, on top of a hill, with the inhabited center, built more recently in the valley, encouraging pedestrian access and walkability. The latter is the proposal that most citizens were already aware of (see Figure 3).

Of the 99 citizens interviewed, only 23.2% ($n = 23$) said that they already knew about the municipality's intention to build the lift. This result confirms the effectiveness of our survey design, first as informative and then as seeking information. The bridge, being the most controversial project, shows the highest percentage of citizens knowing of the plan ($n = 77$; see Figure 4).
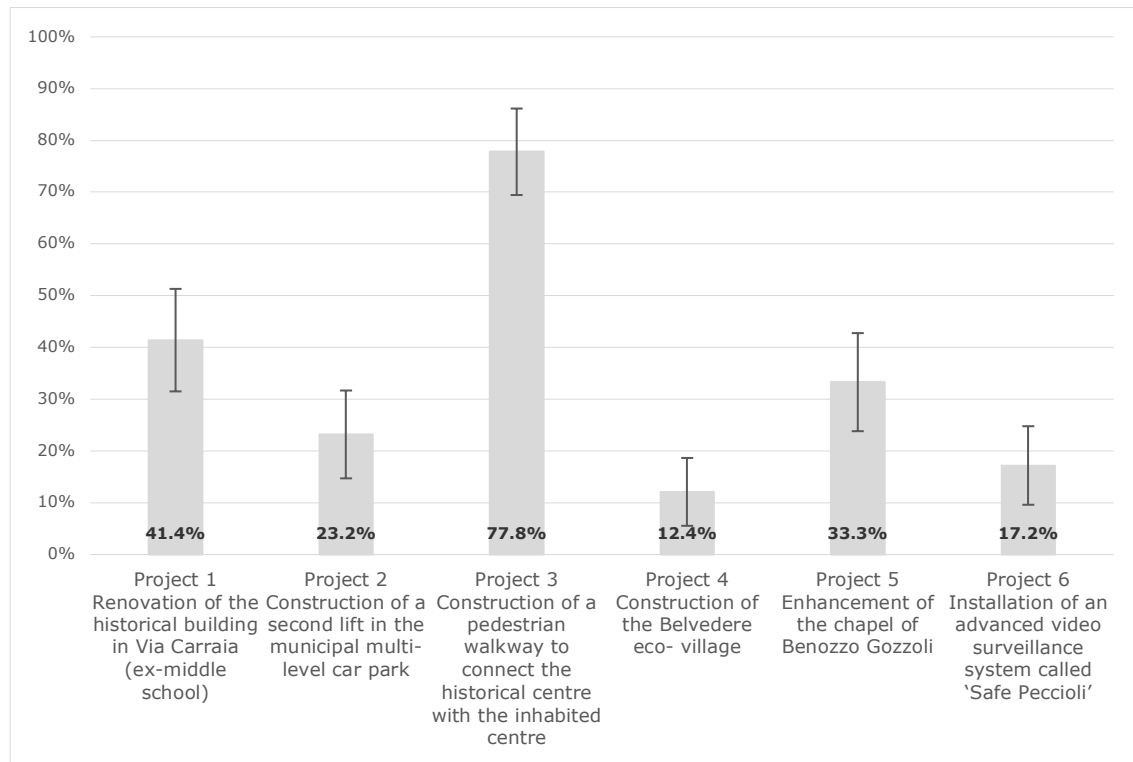
Figure 3. Comparison of prior knowledge of the projects (% of "yes" responses) by the citizens of Peccioli (N = 99) with 95% confidence intervals.

Reading the lift project data more closely, the least informed were women, with less than one fifth aware of it, compared with 14 (28.0%) men. Baby Boomers appeared more informed than others, with about one third saying that they had heard of the project. Respondents with a higher degree of education (*n* = 14, 26.4%) presented a slightly higher level of knowledge than others (*n* = 46, 19.6%). Regarding employment status, the most informed were retirees, of whom about one third said that they had heard about the project. In relation to place of residence, the most informed were those from the inhabited center (*n* = 10, 27.0% were aware), probably because they were most directly affected. However, according to the chi-square test applied to contingency tables emerging from cross-tabulation between previous knowledge and the sociodemographic variables, none of these differences was produced by significant associations.

To our question on the most crucial medium through which respondents became informed about the project, they answered that it was meetings with municipal administrators (*n* = 10, 58.8%), but word of mouth (*n* = 8, 47.1%) also played an important role, in particular for highly educated citizens. As shown in Figure 3, on a scale from 1 to 5, citizens considered that the second lift could contribute to the enhancement of the historical center.

In respect of the pedestrian walkway, the most informed respondents were men, with 82.0% (*n* = 41) saying that they had heard about the project, compared with 73.5% (*n* = 36) of women. By age,

members of Generation X and Generation Y were more aware of the project. By marital status, among the few respondents in the category of unmarried and separated/divorced, all were aware of the walkway. Among the cohabitants/conjugates, the project was already known to the great majority, whereas among the few widows and widowers, only 37.5% ($n = 3$) were aware of it. In relation to education, the most informed were those with a high school diploma, with 94.3% ($n = 33$) having heard of the project, compared with 76.7% ($n = 23$) of those with an elementary license, 66.7% ($n = 12$) of those with a degree, and 56.3% ($n = 9$) of those with lower secondary education. As residence, inhabitants of the historical center were somewhat less informed than those living in the inhabited center (73.9%, $n = 17$, compared with 81.1%, $n = 30$). Those living in Peccioli longer than 15 years had heard of the pedestrian bridge more than people more recently settled. More informed than others were respondents from families with children, among whom 84.8% ($n = 56$) were already aware of the project. According to the chi-square test applied to contingency tables emerging from the cross-tabulation between previous knowledge of the project and the sociodemographic variables, these differences, however, were not produced by significant associations.

The main channel for information on the bridge turned out to be word of mouth ($n = 35$, 35.3%), followed by meetings with administrators ($n = 15$, 15.2%), local media ($n = 11$, 11.1%), Facebook ($n = 6$, 6.1%), posters in public areas ($n = 1$, 1.1%) and technical meetings organized by the administration for construction professionals ($n = 1$, 1.1%). It should be noted that by local media we refer mainly to the online newspaper *Qui News Valdera* or to the daily newspaper *Il Tirreno*; in the case of Facebook, the most common reference was to the group "Sei di Peccioli se. . . ."

The Advisory Level

Concerning our second research question that asked which strategies could improve active listening to citizens in order to collect their opinions, evaluations, and needs more effectively, we applied two different methods to reach this purpose: a survey and the analysis of OSD. In the advisory level, results came both from the survey and the monitoring of digital traces.

From the survey, we collected respondents' evaluation on the seven projects presented to citizens. The results are reported in Figure 4.
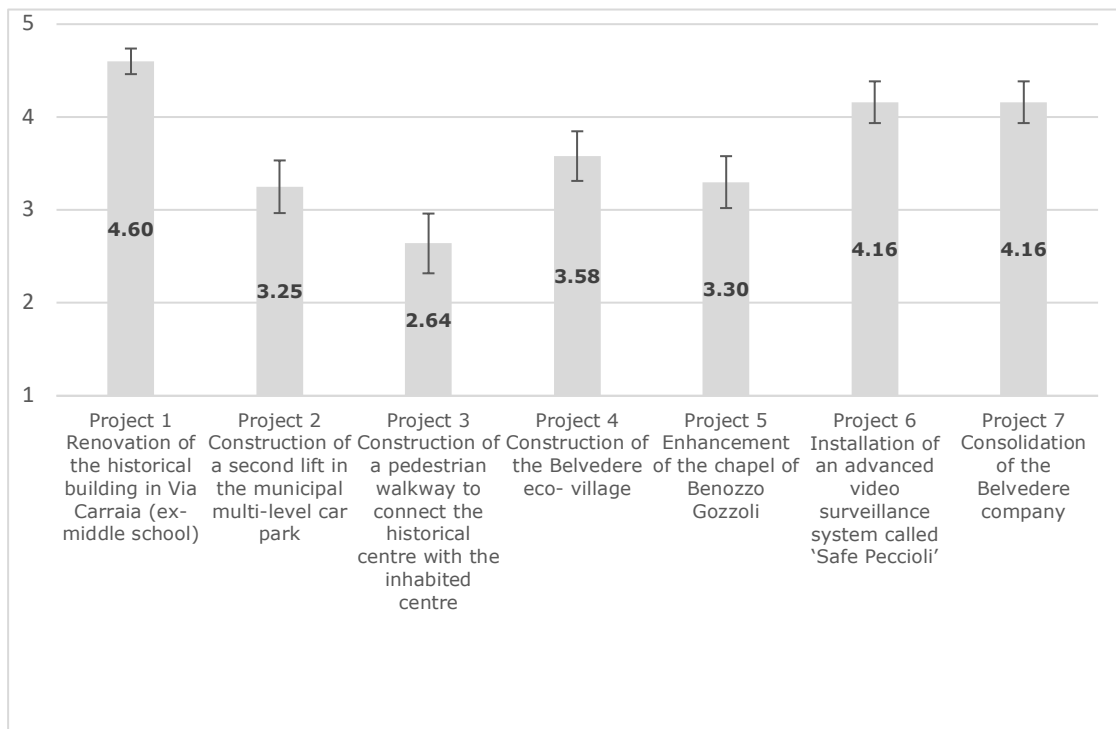
Figure 4. Average and standard deviation of projects' evaluation by the citizens of Peccioli (N = 99) on a 5-point Likert scale.

As we anticipated, the two most controversial projects were Project 2 and Project 3, which received the lowest and most discordant evaluations. In general, the mean oscillated from a maximum score of 4.60, for the renovation of the historical building in Via Carraia, to 2.64, for the realization of a new pedestrian walkway. According to the paired-samples *t* test, this difference is statistically significant, *t*(98)= 14.474, *p* < .0001. Moreover, whereas the former project denotes a high homogeneity in evaluations (*SD* = 0.697), the latter shows more variability (*SD* = 1.632). The average score obtained by projects was 3.66 on the 5-point scale, which means a positive overall judgment. The paired-samples *t* test applied to all combinations of projects showed that the individual scores were all significantly different, except for those regarding the second lift, the renovation of the chapel, "Safe Peccioli," and activities conducted by the Belvedere company. These results provide guidance for the municipality in prioritizing project proposals in accordance with citizens' views.

As mentioned, the OSD collected from the Facebook group "Sei di Peccioli se . . ." contributed to outline the advisory level. In 12 months, 610 posts were published in the group, with the highest number in June. In terms of participation, it is worth noting that, even though the group has 1,385 members, posts were written by 208 citizens (104 females, 103 males, and one account neutral as belonging to a road bicycle race), or 15% of the group's members. Analyses conducted in other online groups usually show a significantly lower level of participation (Hargittai & Walejko, 2008).

Within the group, in addition to creating posts, users can comment on posts or simply leave a reaction expressing their sentiments with Facebook's six different animated emotions: love, haha, wow, sad, angry, and like. In the case analyzed here, in one year, 418 citizens (224 females, 193 males, and one gender-neutral account of a bar) left 2,069 comments in total. Those who participates actively in commenting represent 30% of members.

Through the content analysis, it emerged that most group discussions were not related to urban planning or municipal project proposals. Most interactions were concerned with other village-related topics, such as lost and found, stolen property, event notices, sharing photos, or expressing personal experiences or feelings. Only a small portion of posts was on planning-related-issues and, of the seven municipal projects and initiatives under evaluation, only two were discussed. These were the same two projects that obtained the lowest score in the survey: the second lift and the pedestrian walkway.

The most discussed and criticized project was the walkway. There were three posts on this topic, two published in March and one in August. All were written by men, but they were commented on by both men and women. In the first two posts, the discussion was serious, whereas, in the last, the tones were ironic and a meme image was shared (see Table 2).

The first post was characterized by a strong emotional reaction, as evidenced by the high number of comments. These responses were probably associated with the novelty of the proposal and with villagers' surprise in seeing how the completed project would look. Comments mainly communicated negative sentiments; only one was expressly in favor. The others were divided between those skeptical that it would be built in the near future (e.g., "This project aims to make people dream and draw votes. Then the catwalk will not be built because the opposition does not want it" [Male 1]) and those expressly opposed (e.g., "I have no words . . . very bad!" [Female 1]; "What a horror. . . !" [Female 2]). Among the latter were people who would be directly negatively impacted, either because the municipality would have to sequester their land or because the walkway would be sited close to their houses, invading their privacy (e.g., "From what I perceive from the preliminary renderings, the walkway will pass next to my terrace, kitchen and bedroom. . . . It will be placed directly in my private parking lot. . . . I will be quite damaged" [Male 2]). Several comments were ironic; to emphasize the bridge's magnitude, commenters used metaphors (e.g., "It is a launching pad for V2. Just put it perpendicular!" [Male 3]; "It's a fist in the eye!" [Male 4]).

The second post, a provocative question, asked how people would react if the bridge were to be built over their home and sparked vehement reactions:

> The catwalk is a really bizarre idea. . . . Bad to see and useless, especially if the historical center will continue to empty itself. . . . This money could be used for other projects like building a seasonal cover for the pool. (Male 5)

Table 2. Posts Related to the Pedestrian Walkway Project Proposed.

Date of post	Content of the post	Type of content	Emotional reactions (*n*)							Comments (*n*)			Shares (*n*)
			Like	Love	Haha	Wow	Sad	Angry	Total	By men	By women	Total	
March 15, 2017	What do you think about this walkway?	Text and rendering of the project proposal	19	0	0	0	0	3	22	78	19	97	1
March 22, 2017	I am looking for an answer from the Mayor and the city council. The question is the following and I also would like to address it to all the fellow citizens. IF SOMEONE SAYS THAT IN THE NEXT MONTHS A BRIDGE WILL BE BUILT OVER YOUR HOUSE, HOW DO YOU REACT?? Can someone give an answer ????	Text	3	0	1	0	0	0	4	15	2	17	0
August 15, 2017	Good August 15th! By the way, this is the most popular post of the day in Peccioli, especially for those who will live there below.	Text and meme	34	0	10	0	0	0	44	2	5	7	2

The third post is quite different from the first two analyzed because it contained a humor meme. It represented a popular comic actor, Christian De Sica, in one of his most famous expressions of disgust while he looks at the walkway (see Figure 5). The great majority of the many positive comments on the post were characterized by enthusiasm (e.g., "Ahahahahahahahahahahahah" [Male 7]; "Beautiful!!!! :D" [Female 4]).
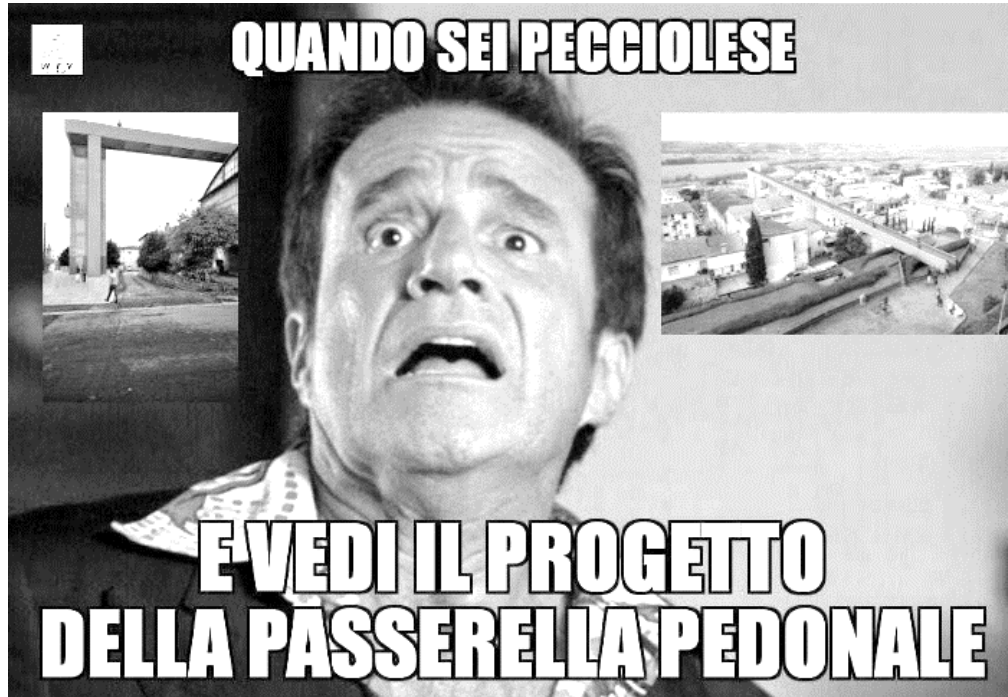
Figure 5. The meme shared within the Facebook group "Sei di Peccioli se. . . ."

Regarding the proposal for a second lift, the temporary suspension of the existing lift due to a power surge provided an occasion for discussion (see Table 3). In this case, the tone of the post was ironic, but reactions were strong and invited others to forego futile outbursts and to climb to the historical center instead.

Table 3. Posts Related to the Second Lift Project Proposal.

Date of post	Content of the post	Type of content	Emotional reactions (*n*)							Comments (*n*)			Shares (*n*)
			Like	Love	Haha	Wow	Sad	Angry	Total	By men	By women	Total	
July 5, 2017	The new attraction of Peccioli for tourists. It seems to be in an episode of CSI. Yet another failure of the lift and closure by the Fire Department. Waiting for the second lift of €530,000.	Text and picture of the out-of-order lift	7	0	0	0	0	1	8	5	7	12	0

Someone commented highlighting the fact that the lift is a public good, continually used by the whole village. It is to be expected that it can fail sometimes (e.g., "However, the lift always goes up and down. It is normal that it breaks" [Female 5]), and a second lift could be useful in addressing this problem.

The Deliberative Level

Our third research question (How can we contribute to the recognition of citizens' wishes by local authorities?) is still an open phase because it embodies the longest process that requires more steps. At the end of this data collection, we reported the data to the local authority, which took them into account in urban planning in Peccioli.

At present, of the seven project proposals discussed with citizens, only two have not been initiated: the construction of the Belvedere Village and the reconstruction of the chapel of Benozzo Gozzoli in Legoli. The first awaits feedback from the Tuscany region, and the second was stopped by the Ministry of Cultural Heritage. Moreover, during the field research, citizens indicated further suggestions and desires, among which the most important was the renovation of the historical center. The municipality has enthusiastically welcomed this proposal, and has allocated significant public funds for its realization, while approving 120 private renovation projects in the center.

Discussion and Final Remarks

The survey results show how our methodological strategy strengthened the informative level already provided by the municipality and local as well as online media, allowing us to collect a citizens' voice that is reliably informed. Second, our survey implemented the advisory level; building a random sample, we were able to give voice to the "silent majority." Third, we were able to satisfy the deliberative level because the ideas, proposals, and opinions expressed by citizens involved in the survey became suggestions to the municipality for new projects.

The results coming from OSD, on the one hand, confirmed the controversial evaluations of two proposals—the second lift and the pedestrian walkway—which also emerged from the survey, and, on the other hand, helped to capture the sentiment of the community regarding these projects. Furthermore, it helped to overcome the survey's limits to the expression of authentic opinions and moods.

Aware both of the unfeasibility of comparing data collected through such different methods and of the limits related to each data source, what we have done here is integrate traditional and digital methods of public participation. We consider that this hybrid approach is useful when carrying out research on a population where it is not easy to involve all members. The field site of Facebook was revealed as an extension of the offline site, enhancing conventional social science methods and engaging citizens who may normally be unable or unwilling to attend public meetings in planning processes. Our approach allowed us to capture opinion and emotions from more diverse sections of the population, widening the knowledge base behind policy decisions. As shown by our findings, the two sources of information were complementary and their combination provided, at least partially, different inputs into the process.

Analysis of the OSD helped us not only to understand better the qualitative issues related to the most controversial proposals, but, more generally, to get a closer look at the population and capture the social sentiment of the community. What emerged from the corpus of material in the Facebook group represents an interesting cross-section of the everyday life of the village, with all of its details, situations, dimensions, and complexity that would be impossible to attain using traditional methods. Accessing this type of content and learning about citizens' feelings and suggestions can serve planning aims and help achieve heuristic understanding. Hybridization of analog and digital merges methods that speak the language of rationality with methods that capture paths characterized by affect. That said, the key distinguishing feature in this kind of study is the application of the survey. This tool is crucial for research that aims to investigate, support, and improve citizens' participation while guaranteeing, or at least attempting to establish, representativeness of the population.

Both the survey and the OSD analysis have limitations. For example, the reliability of survey data is affected by the desirability effect. Furthermore, the high level of nonresponses to our invitation to being interviewed created a bias for the differences between people who choose to participate and those who choose not to, weakening generalizability (Moser & Kalton, 1971; Nardi, 2014). However, it must be emphasized that the number of subjects involved in Peccioli was high in comparison with previous instances in the literature, in which the percentage of the population did not exceed 1%, other than in rare cases, such as the exemplar of participatory budgeting in Porto Alegre, where in some years it has reached 5–7% (U. Allegretti, 2008).

The OSD analysis also has potential weaknesses, such as the fact that Facebook is not representative and some social groups, such as those without Internet access or digital skills, might be excluded (Kosinski, Matz, Gosling, Popov, & Stillwell, 2015; Olteanu, Castillo, Diaz, & Kiciman, 2016). Although manual data extraction helps in overcoming some algorithmic and economic constraints, nevertheless, there are limits linked to the platform itself, such as, for example, the visibility of posts and the fact that Facebook ranks content individually based on a variety of factors (e.g., past behaviors, popularity of the post, type of media) and prioritizes posts earning high engagement (e.g., reactions and comments). Another limitation derives from the fact that Facebook is often perceived as a space for recreation rather than for constructive discussion. This perception undoubtedly influences the quality of user-generated content, frequently characterized by a dearth of added information. Moreover, even if it was not apparent here, online environments carry a higher risk of disinformation and influence campaigns. Nevertheless, the integration of survey data and digital traces has allowed us to compensate for each method's respective deficiencies and to generate layered data on participation more accurately.

In spite of the intrinsic limitations of each method, we believe that the data collected in this study contribute significantly to the discussion about participation in democratic life. The methodology applied has been effective in generating qualitative and quantitative data shown to be important for the municipality. Citizens' points of view have enhanced the planning process at a deeper and more meaningful level, better realizing their involvement in democratic life. It is worth highlighting also that this research, independent of local characteristics of place, culture, or scale, potentially can be adopted and replicated in many other contexts, including, with the necessary adaptations, larger cities.

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