

PREDICTORS OF PROSOCIAL BEHAVIOR DURING THE COVID-19 NATIONAL LOCKDOWN IN ITALY: TESTING THE ROLE OF PSYCHOLOGICAL SENSE OF COMMUNITY AND OTHER COMMUNITY ASSETS

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There is growing support for viewing communities as a multilevel construct in which the interdependence between individuals and community systems contributes to the promotion of individual responsibilities in thinking and enacting changes to respond to people's and community's needs. However, there is currently scant evidence regarding the influence of psychological sense of community and the role of community assets on prosocial behavior during the COVID-19 national lockdown. The main aim of the current study was to test a conceptual model of community assets as predictors of prosocial behavior during Italy's COVID-19 national lockdown. A sample of 3,964 Italian adults was involved in the current study. We collected data using an online questionnaire, between April 12 and May 21, 2020, during the nationwide lockdown restrictions. To collect data, we employed convenience and virtual snowball sampling strategies (i.e., email, social networks, and online channels). Using structural equation modeling, we found that prosocial behavior was predicted by sense of community responsibility but not by sense of community. Moreover, sense of community and sense of community responsibility were predicted by community members' perception of its assets, in particular collective resilience and adequate information. Finally, trust in the institutional response to the pandemic predicted community members' perception of collective resilience and receiving adequate information through the community. The present study suggests that community qualities, positively perceived by community members, are crucial in promoting prosocial behaviors and producing collective goods during a pandemic.

Keywords: *Prosocial behavior, sense of community responsibility, COVID-19, pandemic, sense of community, resilience*

1. Introduction

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a global pandemic (WHO, 2020). In Italy, a strict nationwide lockdown was implemented from March 9 to May 4, 2020. This government-imposed state of emergency lockdown was without precedent and has had profound effects on everyday life.

Altruism and social solidarity have been recognized as necessary in the global response to the pandemic (Cheng et al., 2020). Indeed, helping people who struggle to cope with the pandemic is

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crucial to alleviate the strains arising from the quarantine or the outbreak (Wolf et al., 2020). Therefore, it is relevant for the global response to the pandemic to identify the predictors of prosocial behavior (including donations, online support, and company, e.g., Butler, 2020) during a national lockdown in the context of the COVID-19 pandemic. We contend that the psychological sense of community (i.e., sense of community and sense of community responsibility) represents a psychological construct that is particularly relevant in predicting prosocial behavior in the context of the COVID-19 pandemic. Efforts to operationalize the experience of the community have their theoretical roots in the work of Sarason (1974), which conceptualized psychological sense of community as "the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger dependable and stable structure." (p. 157). In this sense, living an emergency brings greater attention to the community dimension of everyday life. The shared uncertainty, threat, and need for coordinated and cooperative responses in the pandemic situation highlight the importance of belonging and interdependence with others (Gatti & Procentese, 2021). By using data from a large sample of Italian adults, this study will test a conceptual model of the role of psychological sense of community and other community assets on prosocial behavior during the COVID-19 national lockdown.

1.1. Sense of community responsibility and sense of community as a resource

In the last decades, considerable attention has been devoted to the “community”. Community psychology scholars helped to shift the consideration of communities from singular and monolithic subjects to “multilevel construct(s) with cultural, psychological, ethnic, and geopolitical elements” (Dutta, 2016, p. 334).

A deeper understanding of the community ignited a further elaboration of theories around the construct, such as the Sense of Community theory. After moving a critique towards the Sense of Community model proposed by McMillan & Chavis (1986), Boyd et al. (2018) suggested a unified theory: The Community Experience Framework. According to this Framework, community members can perceive their experience in communities according to two dimensions: feeling a community as a resource (SOC) and perceiving a community as responsibility (SOC-R). Sense of community responsibility (SOC-R) refers to a feeling of personal responsibility for protecting or enhancing the individual and collective well-being of a community of people that is not related to an expectation of personal gain (e.g., Boyd et al., 2018; Nowell & Boyd, 2010). According to Boyd et al. (2018), SOC-R represents the missing part of the McMillan & Chavis model, and it differs from sense of community (SOC) because the latter is theoretically based on a human needs perspective and emphasizes the extent to which the collective well-being of a community of people is a resource for meeting critical psychological and physical needs. In addition to theory, there is empirical evidence illustrating that SOC-R and SOC are distinct albeit related constructs (e.g., Boyd & Nowell, 2017; Prati et al., 2020). Previous theoretical and empirical works demonstrated that both SOC and SOC-R predict community engagement (e.g., Boyd & Nowell, 2017; Talò, 2018), civic and political participation (e.g., Prati et al., 2020; Procentese et al., 2019; Talò et al., 2014), and prosocial behavior (e.g., Omoto & Snyder, 2009; Yang et al., 2020). Therefore, the following hypotheses are proposed:

H1: SOC will be a predictor of prosocial behaviors during the COVID-19 pandemic.

H2: SOC-R will be a predictor of prosocial behaviors during the COVID-19 pandemic.

1.2. Community members' perception of the community context

The community experience framework (e.g., Boyd et al., 2018; Nowell & Boyd, 2010) posits that community members' perception of the community context can influence the two aspects of community experience (i.e., SOC and SOC-R), given the existing interdependence between individuals and communities. Indeed, interdependence determines how people share local contexts, socially and physically, their perception of living together, and the promotion of individual responsibilities in thinking and enacting changes to respond to people's and community's needs (Procentese & Gatti, 2019). Communication is considered one of the core adaptive attributes of a community that is resilient to a crisis (Houston et al., 2014). According to a communication model of community resilience, to adapt in the face of crisis, the communication systems and resources in a community are crucial because they "function as sources of information, meaning-making, and connection" (Houston et al., 2014, p. 274). Continuous positive flows of appropriate and consistent information are crucial in fighting against uncertainty (Capone et al., 2020; Menoni & Schwarze, 2020). The importance of information and communication during a lockdown is supported by several studies (e.g., Brooks et al., 2020). Indeed, people who are quarantined need to understand the situation, and community leaders can enable critical reflection, skill-building, and transformation through adequate information (Pfefferbaum et al., 2013).

The confinement has solicited and favored access to information, particularly among those who had access to media, who devoted a considerable amount of time to providing information about the pandemic (Gozzi et al., 2020). Conversely, some of the population might not have been easily reached by community leaders, especially if their socio-economic and cultural conditions were dire. Some may also have encountered difficulties accessing media and distinguishing institutional from non-institutional messages (including communication on social media, fake news, etc.). Therefore, the perception that a community as a whole is coping effectively with a pandemic through adequate information and communication is expected to predict the two aspects of community experience. Hence, the following hypothesis is developed:

H3: Community members' perception of receiving adequate information and communication through the community during the COVID-19 pandemic will predict SOC and SOC-R.

Community members' perception of the community during a pandemic concerns adequate information and communication and a shared belief system about a community's ability to successfully adapt to changing and challenging circumstances such as a pandemic. Such a community's ability can be defined in terms of collective resilience, which includes a combination of agency and adaptability (Lyons et al., 2016). Thus, we expect that the perception that a community can cope effectively with a pandemic can predict the two aspects of community experience. Henceforth, the following hypothesis is proposed:

H4: The extent to which community members perceive collective resilience in the community during the COVID-19 pandemic will predict SOC and SOC-R.

1.3. The role of trust in community members' perception of the community context

According to a study on global pandemic policies (Hale et al., 2021), Italy was one of the first countries to adopt intense and strict policies for closure and containment during the first months of the pandemic and start coordinated information campaigns. Despite its timeliness, a recent study on the preparedness of European countries in coping with the pandemic placed Italy as one of the worst performers in coping (i.e., to reduce the negative impact of mortality of the virus) and

containing (i.e., to have a higher capacity to support COVID-19 vaccinations and prevent the diffusion of future waves of the virus) the pandemic crisis (Coccia, 2021).

Worldwide, Institutions have been primarily involved in the process of designing and providing information during the pandemic. Research from the United States during the H1N1 pandemic suggests that people trust public health officials (Paek et al., 2008; Quinn et al., 2013). Similar results have been collected in Switzerland, showing that people displayed high levels of trust in government during the initial stages of the H1N1 pandemic (Bangerter et al., 2012). Findings revealed that greater trust in the institutional response to an outbreak corresponds to a higher probability that people consider institutional communication effective and adhere to health guidelines (Gilles et al., 2011; Prati et al., 2011a; Quinn et al., 2013). In the Internet and social media era, appropriate and consistent communication from trustworthy sources is particularly relevant, considering the fast rate of news- true and fake-spreading (Merchant & Lurie, 2020; Steelman et al., 2015). There is evidence that mutual trust and respectful relationships between institutions, authorities, and citizens play an important role in containing anger, fear, and stress (De Marchi, 2003; Elcheroth & Drury, 2020; Steelman & McCaffrey, 2013) and contribute to the development of a linking social capital, that relates to bonds of connectedness formed across diverse horizontal groups and institutions (Perkins et al., 2002; Claridge, 2018). Hawkins and Maurer (2010), analyzing how New Orleans residents managed their lives after hurricane Katrina, found linking social capital as a critical resource for community revitalization and long-term survival. Oliveira and Morais (2018) identified trust between inhabitants and governors and solidarity as two dimensions of social capital that contribute to community resilience. Indeed, competence-based institutional trust (i.e., an institution's ability to handle extreme situations; Kong, 2013) can hinder "corrosive" community dynamics (Cope et al., 2016; Slack et al., 2020). Recent studies (Sibley et al., 2020; Falcone et al., 2020) showed how public trust in the effectiveness of institutional responses to the pandemic might represent a means for reaching collective goals within communities and allowing individuals groups to look at uncertainty, both dampening it and managing it. Moreover, citizens' trust in government has been reported to have a mitigating effect over a possible "pandemic fatigue" (i.e., a reaction to sustained and unresolved adversity caused by the effects of a pandemic on people's lives) that contributes to people's alienation and hopelessness, along with a progressive demotivation and laxer uptake of virus control measures (e.g., confinement, social distancing, wearing masks) and jeopardize the success of the emergency and containment actions (Allain-Dupré et al., 2020).

Based on this literature, we expect that trust in the institutional response to the COVID-19 pandemic may foster the perception that the community a) has adequate information, given the trustworthiness of the source; and b) is resilient, since trust plays a role in containing citizens' negative responses and developing a linking social capital. Moreover, SOC and SOC-R can be influenced by how institutions manage decisions and how these are perceived as legitimate and trusted (Liu et al., 2018).

H5: Trust in the institutional response to the pandemic will predict community members' perception of collective resilience and adequate information.

2. Aims and hypotheses

This article aims to test a conceptual model derived from the relevant literature presented above (Fig.1). The first part of the model tests the relation between trust, collective resilience, and perception of receiving adequate information; the second part of the model tests the relationship between sense of community, sense of community responsibility, and prosocial behaviors during the COVID-19 National lockdown.

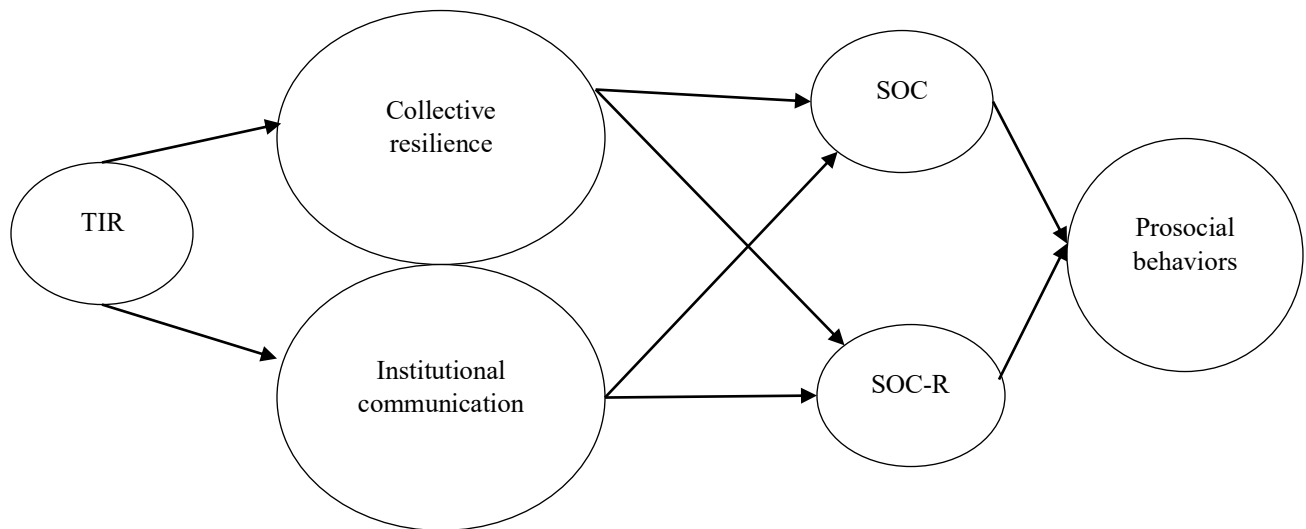


Figure 1. Hypothesized Path Model

Hypothesized Path Model of Community Assets Predictors of Prosocial Behavior During the COVID-19 national lockdown

Note. All hypothesized paths are positive; TIR = trust in the institutional response; SOC-R = sense of community responsibility; SOC = sense of community.

In the following lines, previously presented hypotheses are reported:

H1: SOC will be a predictor of prosocial behaviors during the COVID-19 pandemic.

H2: SOC-R will be a predictor of prosocial behaviors during the COVID-19 pandemic.

H3: Community members' perception of receiving adequate information and communication through the community during the COVID-19 pandemic will predict SOC and SOC-R.

H4: The extent to which community members perceive collective resilience in the community during the COVID-19 pandemic will predict SOC and SOC-R.

H5: Trust in the institutional response to the pandemic will predict community members' perception of collective resilience and adequate information

3. Method

3.1. Design

Ethical approval was obtained from the Human Research Ethics Committee at the University of Bologna for all aspects of the current research. Informed consent was collected from participants for this study. Respondents' participation was entirely voluntary.

Data were collected with an online questionnaire designed by the research team of the University of Bologna between April 12 and May 21, 2020, using the Qualtrics platform. Given the nationwide lockdown restrictions, convenience and virtual snowball sampling strategies were used for data collection (email, social networks, and online channels). The link to the questionnaire was shared via emails and social network posts. Additionally, emails with a link to the survey were sent to private enterprises, local municipalities and community organizations, university students, and members of the Register of Psychologists. Respondents were invited to contact their friends, relatives, colleagues, and employees, asking them to complete the questionnaire voluntarily and anonymously.

Albeit unable to determine the response rate due to the online link, we were able to compute the completion rate (determined by the ratio between the number of completed questionnaires and the number of participants who started the questionnaire), which was 82.5%.

3.2. Sample

The sample comprised 3,964 participants aged 18 years or older living in Italy. Most participants were women (69.5%; $n = 2,755$). Participants' mean age was 39.85 years ($SD = 14.29$), had higher levels of education (55.8%; $n = 2,214$), had an employee contract (48.2%; $n = 1,910$), and lived in the Northern Regions of the Country (66.3%; $n = 2,627$). Table 1 displays data on participants' socio-demographic characteristics and Italian official census figure.

Table 1. Participants' socio-demographics and official Italian census figures (ISTAT, www.istat.it).

	Mean	Mean general population	
Age	39.85	46	
Gender	<i>f</i>	%	% general population
Female	2755	69.5	51.8
Male	1209	30.5	48.2
Level of education	<i>f</i>	%	% general population
Lower than high school diploma	312	7.9	48.1
High school or vocational diploma	1438	36.3	36.6
Bachelor's degree or higher (Master, Ph.D., etc.)	2214	55.8	15.3
Occupation	<i>f</i>	%	% general population
Employee	1910	48.2	30.2
Self-employer	605	15.3	8.8
Retired	241	6.1	21.6
Unemployed	293	7.4	26.2
Other (student, research fellow, etc.)	915	23	
Location	<i>f</i>	%	% general population
Northern Regions	2627	66.3	46.4
Central Regions	182	4.6	19.9
Southern Regions	1155	29.1	33.7

3.3. Measures

Aside from a section on sociodemographic information, the survey included measures of prosocial behaviors, sense of community responsibility, sense of community, institutional trust, institutional information and communication, and collective resilience. Table 2 displays estimates of the reliability of the measures used.

Table 2. Means, Standard Deviations, Reliability Estimates, and Correlations (Spearman's rho) among Study Variables

	<i>M</i>	<i>SD</i>	ω	1	2	3	4	5	6	7	8
1. Gender	—	—	—	—							
2. Age	39.84	14.27	—	-.08*	—						
3. TIR	3.23	0.67	.75	-.01	-.08*	—					
4. Collective resilience	3.59	0.72	.88	.01	.10*	.28*	—				
5. Institutional communication	3.35	0.83	.81	.00	-.02	.58*	.30*	—			
6. SOC	3.57	0.75	.87	.00	.13*	.20*	.34*	.26*	—		
7. SOC-R	3.65	0.70	.86	.03	.13*	.13*	.27*	.18*	.43*	—	
8. Prosocial behaviors	1.85	1.58	.86	.07*	.12*	-.01	.09*	-.01	.13*	.25*	—

Note. * $p < .001$. TIR = trust in the institutional response; SOC-R = sense of community responsibility; SOC = sense of community.

Prosocial behaviors. Prosocial behaviors were measured using 12 dichotomous (*No* = 0, *Yes* = 1) items assessing engagement in various online and offline behaviors. They were adapted from existing scales to the specificities of the lockdown (Enchikova et al., 2019; Rushton et al., 1981). Respondents were asked to answer the question, “Since the beginning of the Covid-19 outbreak, have you engaged in any of the following behaviors?”. The items covered areas of practical “offline help” (e.g., “I have worked in a volunteer association for practical help, such as transport, delivery of basic needs, drugs” and “I have helped a neighbor”), of practical online help (e.g., “I have given classes to share my competences with others” and “I have offered school services for children/teenagers at home”), and other online behaviors (e.g., “I have shared verified and official health advice on social networks” and “I have posted messages of hope on social networks”). A summative index of prosocial behavior was used, ranging from 0 (i.e., engaged in any prosocial activity) to 12 (i.e., engaged in all proposed prosocial activities).

Sense of Community Responsibility. We used the Italian version of the Sense of Community Responsibility (SOC-R) scale (Prati et al., 2020). The scale consists of six items (e.g., “It is easy for me to put aside my own agenda in favor of the greater good of my community”). Answers were scored on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*).

Sense of Community. We used the Italian version of the Brief Sense of Community Scale (Gatti & Procentese, 2020; Mannarini et al., 2020; Peterson et al., 2008). The scale consists of eight items (e.g., “I feel connected to this neighborhood” and “I feel like a member of this neighborhood”). Answers were scored on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*).

Trust in the institutional response. Five items were included to assess the trust in the institutional response to the pandemic. These items were derived from previous research on pandemic flu (Prati et al., 2011a, 2011b). The items referred to proximal institutions (local and regional administrations), national institutions (the National Government and the National Health

System), and international institutions (European Union). Answers were scored on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*completely*).

Institutional communication. We used the institutional information and communication subscale of the CART – Community Advancing Resilience Toolkit (Pfefferbaum et al., 2014; Pfefferbaum et al., 2013; Pfefferbaum et al., 2016). The scale was composed of four items with answers on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*). Items examples are “If a disaster occurs, my community provides information about what to do” and “My community keeps people informed (via television, radio, newspaper, Internet, phone, neighbors, etc.) about issues that are relevant to them.”

Collective resilience. We used the Fletcher-Lyons collective resilience scale (Lyons et al., 2016). The scale includes five items (e.g., “If challenges arise for my community as a whole, we are able to actively respond to those challenges”). We have replaced the original term “group” with the term “community” because we aimed to investigate community resilience. Answers were scored on a 5-point Likert scale, ranging from 1 (*Completely disagree*) to 5 (*Completely agree*).

4. Statistical analyses

The percentage of missing data was small (i.e., 2%), and, therefore, we used pairwise deletion (Newman, 2014). We calculated descriptive statistics and correlation coefficients using SPSS 25. To evaluate reliability, we calculated McDonald’s omega (ω) using the semTools R package 0.5-3 (Jorgensen et al., 2020). Table 2 displays descriptive statistics, reliability, and variable correlations. Except for gender and age (control variables), the study variables were significantly correlated, and the signs of all the correlation coefficients were as expected. To test our hypothesized model, we used structural equation modeling in Mplus 7.4. Specifically, we used a mean and variance adjusted weighted least squares estimation method (WLSMV). The model’s overall fit was evaluated considering the values for acceptable absolute, relative, and parsimony fit indices. The selection of these indices was based on their statistical power and widespread use in the relevant statistical literature (Hu & Bentler, 1999; Kline, 2011; Ullman, 2006). We considered the values of the Standardized Chi-square ($\chi^2/df < 5$), the Root Mean Square Error of Approximation (RMSEA < 0.08). As a relative fit index, we used the values of the Comparative fit index (CFI > 0.90) (Hu & Bentler, 1999; Kline, 2011; Ullman, 2006) and Tucker–Lewis Index ($> .90$). Gender and age effects were controlled for in the structural equation model.

5. Results

Table 2 displays descriptive statistics, reliability, and variable correlations. Except for gender and age (control variables), the study variables were significantly correlated, and the signs of all the correlation coefficients were as expected. Examination of the correlation matrix indicated that the data were not likely to be affected by singularity and multicollinearity (Tabachnick & Fidell, 2013).

Figure 2 reports the path coefficients from the hypothesized structural equation model. The fit of the model was satisfactory, $\chi^2(793) = 5354.016, p < .001$; TLI = .97; CFI = .97; RMSEA = .038, 95% CI [.037, .039]. The hypothesized positive relationship between SOC and prosocial behavior

during the COVID-19 pandemic was not significant, $\beta = -.01, p = .691$. Therefore, Hypothesis 1 was not supported. Consistent with Hypothesis 2, SOC-R predicted prosocial behaviors during the COVID-19 pandemic, $\beta = .48, p < .001$. The extent to which participants perceived a community that provides adequate information and communication during the COVID-19 pandemic was a significant predictor of both SOC, $\beta = .20, p < .001$, and SOC-R, $\beta = .12, p < .001$. Thus, Hypothesis 3 was supported. Perceived collective resilience in the community during the COVID-19 pandemic was significantly associated with both SOC, $\beta = .32, p < .001$, and SOC-R, $\beta = .27, p < .001$, thereby confirming Hypothesis 4.

Finally, trust in the institutional response to the pandemic did predict the extent to which participants perceived a community that provides adequate information and communication, $\beta = .77, p < .001$, and perceived collective resilience in the community, $\beta = .42, p < .001$. Therefore, Hypothesis 5 was supported. The model explained 25% of variance for prosocial behavior, 13% for SOC-R, 21% for SOC, 59% for the extent to which the community gives adequate information, and 19% for collective resilience.

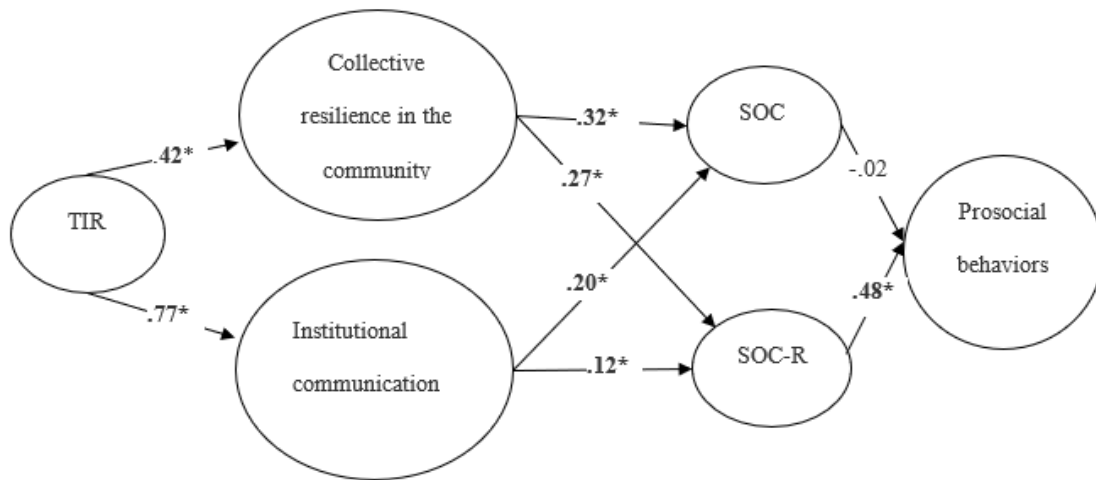


Figure 2. Path Coefficients

Path Coefficients (Structural Equation Model) from the Hypothesized Model of Community Assets Predictors of Prosocial Behavior During the COVID-19 national lockdown

Note. TIR = trust in the institutional response; SOC-R = sense of community responsibility; SOC = sense of community. Standardized path coefficients among variables are presented. * $p < .001$; $\chi^2(793) = 5354.016, p < .001$; TLI = .97; CFI = .97; RMSEA = .038, 95% CI [.037, .039]. Gender and age effects were controlled for in the model but are not shown.

6. Discussion

The main aim of the current study was to test a structural equation model of community assets that influence prosocial behavior during the COVID-19 national lockdown. We found support for all hypotheses except for H1, the one about the relationship between SOC and prosocial behavior. When only zero-order correlations were examined, findings revealed a significant and positive relation between SOC and prosocial behavior, consistent with Hypothesis 1. Such a significant correlation coefficient is in line with previous theoretical and empirical research demonstrating that SOC is associated with community engagement (Talò, 2018), civic and political participation

(Talò et al., 2014), and prosocial behavior (Omoto & Snyder, 2009). Findings from the structural equation modeling revealed that SOC does not predict prosocial behavior when SOC-R is included as a simultaneous predictor, disconfirming the first hypothesis. Besides, consistent with Hypothesis 2, SOC-R predicts prosocial behavior. Such a pattern of findings may be explained using the community experience framework (e.g., Boyd et al., 2018; Nowell & Boyd, 2010). According to this framework, SOC-R is theoretically based on a personal values perspective which argues that feelings of responsibility specific to a community would direct and motivate prosocial behaviors that are not directly rooted in an expectation of personal gain. SOC-R is different from SOC which is oriented toward a human needs theory perspective that emphasizes the role of a community as a resource for meeting psychological and physical needs. Although the community experience framework recognizes that SOC can motivate to act on behalf of the community, this would be true to how those prosocial behaviors are expected to create a community context that is more likely to contribute to one's well-being. We argue that SOC did not predict prosocial behaviors because participants in the current study did not perceive such behaviors as capable of protecting and enhancing their well-being or the benefits they receive from the community membership. At the same time, they probably thought their behaviors were helpful to others, contributing to their well-being. Therefore, individuals would be engaged in prosocial behaviors because the "cause" –supporting other people in need– is just (Kelly & Breinlinger, 1996), and they experience feelings of responsibility specific to a community. Moreover, while in our study Sense of Community explicitly referred to local communities, Sense of Community Responsibility enabled respondents to expand the concept of community to broader geographical or even different collectivities that during a pandemic could be more suitable targets for prosocial behaviors (e.g., a virtual community that one can reach through online activities).

Besides, we argue that SOC and SOC-R are closely related, albeit distinct constructs (e.g., Boyd & Nowell, 2017; Prati et al., 2020). Indeed, zero-order correlations revealed a strong relationship between SOC and SOC-R, and the squared correlation coefficient revealed that the amount of shared variance between SOC and SOC-R was only 18%. Although such findings suggest that the constructs do not merely overlap and are conceptually distinct, the amount of shared variance between SOC and SOC-R may explain previous research findings documenting a relationship between SOC and prosocial behavior. Such an explanation would indicate that SOC only may appear to have a non-spurious association with prosocial behavior when active SOC-R is not considered. The community experience framework supports the view that SOC-R is a stronger predictor of prosocial behavior relative to SOC. Finally, future research should focus on a theoretical exploration of the extent to which SOC-R may mediate the relationship between SOC and prosocial behavior.

In line with Hypothesis 3, we found positive associations between community members' perception of a community that provides adequate information and communication during the COVID-19 pandemic and both SOC and SOC-R. These findings confirm the importance of adequate information and communication during a quarantine (e.g., Brooks et al., 2020) and lend support to a communication model of community resilience (Houston et al., 2014). We also found that perceived collective resilience in the community during the COVID-19 pandemic predicted both SOC and SOC-R, thereby confirming Hypothesis 4. We argue that members' perception of their community as capable to successfully adapt to a crisis is an attribute of great importance for the development of both SOC and SOC-R, in line with the idea that SOC is nurtured by shared narratives of capacity to overcome shared threats (Chamlee-Wright & Storr, 2011; Revell & Dinnie, 2020). The role of adequate information and communication provided by the community

and of perceived collective resilience in the community has important implications for theory. Specifically, our findings contribute to defining some of the elements of a supportive community context in a time of crisis that are posited to predict sense of community according to the community experience framework (e.g., Boyd et al., 2018; Nowell & Boyd, 2010).

The findings that trust in the institutional response to the pandemic predicted community members' perception of the community during a pandemic (i.e., collective resilience and adequate information) provide support for Hypothesis 5. Our findings extend previous research on trust in the institutional response to an outbreak (Gilles et al., 2011; Prati et al., 2011a; Quinn et al., 2013) by demonstrating an effect of this construct on perceived community characteristics that are crucial for community resilience and social capital development, that represent key resources to deal with crises.

We should highlight several potential limitations of the present research. First, the cross-sectional design of the study limits the ability to make causal inferences. Nonetheless, the hypothesized associations between the variables were based on theory and prior evidence. Second, we acknowledge potential self-selection bias since participation in the survey implied having time to devote to completing the questionnaire and may have resulted from an interest in COVID-19 research. Also, men were underrepresented probably because they are less interested in participating in COVID-19 surveys (e.g., Prati, 2021).

Conversely, women's overrepresentation might be connected to a greater interest given by the more significant immediate and long-term impact of the pandemic on their health and personal, social, working, and educational lives (Burki, 2020; Almeida et al., 2020; Power, 2020; Connor et al., 2020). It is important to acknowledge that the effect of gender was tested. Finally, we used an online survey that restricts the participation of individuals without technological devices (i.e., pc, smartphone, tablet, etc.) and who have little access to the Internet (even though, during the pandemic, broader access to the Internet was granted). Our sample was a convenience sample and, therefore, may not be regarded as representative as national probability samples (see Table 1). This study was planned and carried out during a nationwide lockdown that significantly restricted mobility. Future studies with other samples in Italy and other countries are needed to generalize these findings. Moreover, our study hypothesized specific relations between the variables according to the literature taken into account, but we do not exclude bi-directional associations or inverse relations. Future research might test other models with different paths, starting from different literature assumptions or re-testing the same model at different stages of health emergency outbreaks.

7. Conclusions and implications for research and practice

Despite these limitations, our study provides empirical support to the claimed relevance of community sense of responsibility to engage effectively with the pandemic. It also points out the authorities' essential role in shaping what people do or value (Elcheroth & Drury, 2020).

In a recent review on community resilience, Oliveira and Morais (2018) identified solidarity and trust toward the state as key pillars of social capital that contribute to resilience, stressing the importance for inhabitants of a community to think that they can trust and count on their governors. However, trust in institutions cannot be taken for granted, mainly when the institutional response entails persecution of marginalized populations or violent enforcement of emergency law and regulation. In those cases, solidarity and grassroots initiatives can also directly respond to

institutional failure or lack of adequate response (Malherbe, 2020). Devine et al. (2021) reported a double-edged nature of trust that should not be considered as “unconditional”, stressing how higher trust is associated with slower policy responses, potentially due to the belief that government will be able to deal with the pandemic without more stringent policies, or that fellow citizens would be able to self-police.

Our findings can inform targeted interventions and communication campaigns to promote resilient strategies at the community and national level to answer the spread of pandemics such as Covid-19.

We believe that a) forms of communication that strengthen the collective value of prosocial behavior, offering examples of engaged communities; and b) grassroots initiatives that show that caring for others can generate human connections, can increase collective trust (not limited to institutions), and sustain a long-term innovative practice of care, thus strengthening community well-being. Initiatives like “The new bank of community ideas and solutions” (Albanesi et al., 2021) could serve the scope.

From a public health perspective, community engagement proved critical to contain epidemics in the past (Laverack & Manoncourt, 2015).

Political and health institutions' responses and actions are important to spread positive attitudes such as trust to cope with the virus and make communities more supportive and proactive (Brooks et al., 2020). Indeed, people in communities need to be informed adequately (by different media and social networks) to act responsibly for the individual and collective well-being.

The process of information and communication should go far beyond the mere transmission of messages to the general population and could benefit from engaging with the different (vulnerable) groups in the community to identify and co-construct communicative ideas that can motivate their responsible behavior and solicit active solidarity.

Raising responsibility at the community level during a pandemic can improve the way people express their solidarity without expecting a personal benefit but feeling to be part of and act as a collectivity. Raising community sense of responsibility during a pandemic may favor people's prosocial behavior and the active production of collective goods and ultimately contribute to supporting people navigate through the harshness of the emergency, thus representing a valuable aid to public services.

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