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Trust in local institutions and citizens' subjective well-being Evidence from the case of Modena*

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Abstract

This paper investigates the relationship between the effectiveness of public support and the psychological well-being of citizens during the pandemic by taking into account spatial and institutional characteristics, social organisation and institutional trust. In particular, it analyses how trust enters into the relationship between the perceived effectiveness of public support measures and individuals' self-reported psychological well-being. To this end, we develop an empirical model that explores the mediating effects of trust on psychological well-being. The research was carried out in the province of Modena (in Emilia-Romagna region of Italy) by a questionnaire aimed exclusively at women. A total of 574 responses were collected. The main findings reveal that the perceived effectiveness of policies (their ease of access and their adequacy) affects individual well-being and this relationship is mediated by the citizen's trust in institutions. Institutions matter most at the local level and, if public support is required, trust in institutions matters for individual well-being even more than trust in other people or in Third Sector Organisations. At the local level, the variation in institutional trust influences the relationship between the perceived effectiveness of policy and the perceived individual well-being even when respondents do not seek public support.

Keywords: Trust in institutions, Perceived public support, Self-reported psychological well-being, Mediation model, Italy

J.E.L. Classification: H11, I18, I31

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1. Introduction

How and when institutions matter with regard to trust building are relevant research questions, although not yet enough analysed in the academic literature. Unlike trust in other people, in fact, trust in institutions is not always or only generic, necessarily formalizable in a synthetic index that increases or decreases. Furthermore, institutional trust has a thematic nature that is contextually defined and it changes through the interaction of citizens with the specific institution providing support.

With the aim to increase knowledge on these topics, we study how trust in local institutions affects perceived psychological well-being mediating the perceived effectiveness of policies, in terms of ease of access and adequacy of public support measures provided. The relationship between perceived public support and psychological well-being is complex and not directly related to the variation in well-being experienced by individuals. In particular, spatial and institutional characteristics, social organisation and trust in institutions can play a key role. Therefore, to investigate how trust enters into the relationship between the perceived effectiveness of public support measures and individuals' psychological well-being, we develop an empirical model that explores the mediating effects of institutional trust on well-being.

To this end, we designed a research context driven by specialisation: time, space and institutions (with the related services provided) were strictly defined. The same attention was paid to the definition of the (sample of) subjects whose interaction with the selected institutions we intended to analyse. The survey construction process was inspired by a dynamic approach, taking into account the variation of trust in institutions rather than its objective quantification. Specifically, the research was carried out in the province of Modena, in Emilia-Romagna, by means of a questionnaire addressed exclusively to women, a homogeneous group of individuals who usually have lower levels of trust in institutions. A total of 574 responses were collected.

The paper is structured as follows. Section 1 explores the concept of institutional trust in the literature. Section 2 outlines the case study selection and the survey also presents the descriptive statistics of the sample. In Section 3 the empirical strategy is presented while the results are pictured in Section 4. Section 5 discusses the results and concludes.

2. What do we mean when we talk about trust in institutions?

During the last thirty years, numerous studies have identified trust – both trust in institutions and trust in other people – as a key ingredient of social and economic progress, investigating how trust is linked to income per capita and economic growth (Putnam, 1993; Ahn and Hemmings, 2000; Temple, 2000; Algan and Cahuc, 2013), health status and health-related behaviour (Lochner *et al.*, 2003; Koele and Lindström, 2005; Brown *et al.*, 2007), crime rates (Buonanno *et al.*, 2009) and subjective well-being (Helliwell and Wang, 2010, Boarini *et al.*, 2012). This increasing interest in trust, however, had made it difficult to converge on a univocal definition of the term, able to identify its main characteristics (Cersosimo and Nisticò, 2008).

The multidimensional nature of the concept has indeed generated much discussion in the academic literature (Mutti, 2003; Morrone *et al.* 2009), in particular on its definition and measurement, focusing on the relationship between trust and the progress of societies,

economic growth, individual well-being and local governance. In addition, since Putnam's studies (1993) an overlap between the concept of trust and the concept of social capital has been emerging (Morrone *et al.* 2009). Under a reductionist view, some scholars equate the definition of social capital with that of trust (Paldam and Svendsen, 2000) while the majority tend to recognize that trust is a relevant component of social capital improving the functioning of public institution and facilitating economic transaction (Alesina and La Ferrara, 2000). Putnam himself argues that the concept of social capital «refers to features of social organisation, such as network, norms, and trust, that facilitate coordination and cooperation for mutual benefit» and he defines trust as a «lubricant» for social life (Putnam, 1994, p. 7-9).

In 2017, OECD provides a definition of trust as «a person's belief that another person or an institution will act consistently with their expectations of positive behaviour» (OECD, 2018). This OECD definition intends to combine different approaches to trust from various disciplines - political science, sociology, economics, psychology – aiming to capture both behavioural and attitudinal aspects. This definition has the merit of highlighting the relational nature of trust (Donolo, 2013): «in any specific interaction, a trusting person consciously places resources at the disposal of another party without the means to guarantee that these will be returned» but also «beyond an individual's observable behaviour, trust also includes invisible cognitive and normative aspects» (OECD, 2018). Trust, therefore, is influenced by expectations of the subject and about whether others, even strangers, share the same fundamental values (Fehr, 2009; Hardin, 2004; Uslaner, 2002). At a cognitive level, trust is placed in an intermediate area between total ignorance and complete knowledge; at an emotional one, it occupies the space between the total absence of emotional reassurance and blind faith (Donolo, 2013).

The recipients of trust expectations can be individual actors (trust in other people), institutions (institutional trust), or the natural and social organisation as a whole (systemic trust). Depending on the size of the recipient of the trust, a distinction is made between the «focused» (Roniger 1994), «short-range» (Fukuyama 1999) or «particularistic» trust (Uslaner 2002) and «generalised» trust or «long-range» or «universalistic». In the first case, trust is concentrated on particular individuals or institutions, in the second case it is based on more general and impersonal criteria, extended to individuals extraneous and to institutions and systems in a broad sense (Mutti, 2003; Donolo, 2013). As mentioned above, Putnam is the first author to argue that there are significant positive correlations between the focused and the generalised trust. Moreover, these correlations positively affect the performance of a territory's institutions and the quality of its democratic government, identifying a positive relationship between social capital and economic development (Putnam 1994; Mutti, 2003; Donolo, 2013; Cersosimo, Nisticò, 2008). In contrast, Coleman (1990) proposes a less deterministic interpretation of the relationship between the social capital and the culture of a certain territory, defining the social capital as a «network of relationships between subjects». According to Putnam, the success of institutions directly depends on different degrees of *civicness* already pre-established, while for Coleman the success of institutions is a resource that is built, nurtured or destroyed through the actions of individuals in a given context (Bagnasco, 1999; Barca, 2001 for Italian context). Both authors, however, underline the importance that institutions play in the territories and the complementarity between institutions and social capital, mediated by different forms of trust (Cersosimo and Nisticò, 2008). The complementarity between institutions and social capital operates in two directions: on the one hand, social capital can

support the effectiveness of institutions and, on the other, institutions can condition the arise, persistence and efficiency of social capital, improving the situation of those that belong to the network, without worsening that of the others (Barca, 2001; Trigilia, 2005). Moreover, quoting Putnam (1994): «Stocks of social capital, such as trust, norms and networks, tend to be self-reinforcing and cumulative» (*ibidem*, p. 10).

Institutional trust – the main topic of this work - can be focused, concerning a specific institution, or generalised, concerning the institutional system of a territory in a broad sense. Over the years, empirical research has questioned the direct relationship between institutional trust and trust in other people (Braithwaite, Levi 1998; Offe 2019; Vandello, Cohen, 1999; Rothstein, Stolle, 2002), moreover, the relationship between generalised institutional trust and focused institutional trust is still not entirely clear. For example, high portions of the European and US populations continue to express positive attitudes towards the basic institutions of Western societies (Lipset and Schneider 1983; Nye et al, 1997; Rothstein, Stolle 2002) in contrast to the trend of trust towards specific institutions (focused institutional trust) which has declined almost everywhere (Mutti, 2003; Donolo, 2013; Cersosimo and Nisticò, 2008). Putnam (2000) argues that, generally speaking, the decline in institutional trust is due to the citizen's perception of a worsening in the performance of many Western institutions. Citizens, in fact, build their trust on the basis of their experience in enjoying services by the institutions, either directly or through the experience of others. Many authors agree that trust is built socially, also on the basis of the concrete experiences that the individual actor has with institutional structures and the institutional structures are represented by the services and professionals who work there (Kumlin e Rothstein 2005). Otherwise said, institutional trust is strengthened by the ease of access and the quality of services, the equity and correctness of the services provided, the respect and dignity of treatment, the relationship with the operators and the degree of satisfaction with the performance obtained (Kumlin e Rothstein 2005).

Several researches pointed out specific characteristics of institutional trust: a greater presence of bonds with respect to trust in other people; a different nature of expectations and, finally, different consequences in case of disappointment of expectations (Morrone *et al.* 2009; Donolo, 2013). First of all, institutional trust, unlike trust in other people, is more constrained, limiting the individuals' freedom of choice: institutions are often far from citizens who therefore cannot have a full knowledge about them and their functioning. This lack of knowledge affects the degree of trust that individuals can build. For example, citizens may have only sporadic relations with national and European institutions and little information on their policy making (Sciolla, 2013). Citizens, on the other hand, can have more specific relationships with local government institutions (regions, provinces, municipalities) that regulate policies and their implementation in the territories. Hardin (2002) believes that speaking of trust in reference to public institutions is inappropriate because many citizens do not have some in-depth knowledge about them. The second element that characterises trust in institutions concerns the nature of citizens' expectations. They expect the institution to behave according to the rules and follow the universalistic principles that legitimise it. The expectation is not so much about the defence of an interest, but the guarantee of equal rights for all citizens (*ibidem*). The last element that characterises trust in institutions is the consequences in case of disappointment of expectations. It is very difficult to imagine a form of exit by the citizen from the relationship with the institution. In fact, over time, the institutions themselves have become more visible not only

because of their foundation in the law but also for their ability to express and legitimise through the daily exercise of their scope. The foundation of the very existence of the institutions is therefore in the perception of the quality of the services by citizens (*ibidem*).

Investigating the multiple meanings of institutions and the possibilities of their empirical study, Ostrom focuses on the term «rules». In her analysis, rules are viewed as «relation operating on the structure of a situation» (Ostrom, 1986, p. 7). In Ostrom's grammar, institutions are defined as «enduring regularities of human action in situations structured by rules, norms, and shared strategies, as well as by the physical world. The rules, norms, and shared strategies are constituted and reconstituted by human interaction in frequently occurring or repetitive situations» (Ostrom 1995, p. 582). The conceptualization of trust proposed by Giddens allows us to take a step forward. According to the author, the nature of modern institutions seems to be linked to the mechanisms of trust in abstract systems; this trust presupposes that the citizens meet with the representatives and with the managers of these systems. The points of connection between citizens and representatives of abstract systems are defined as «access nodes» by the author, that is, spaces in which trust can be established or consolidated (1990), depending on how outsiders experience these nodes. Giddens stands in contrast to that part of the trust literature that assumes the development of trust as an essentially micro-level phenomenon, based on frequent contacts between individual actors and the institutions. From his point of view, the micro and macro levels constitute each other in the course of a temporal process (Giddens, 1981).

Adopting this theoretical framework, a number of scholars confirm that institutions play a pivotal influence on trust building processes in inter-organizational relationships. Trust is thus conceptualised as an «organising principle» (McEvily *et al.* 2003) or an efficient means to coordinate expectations and interaction (Bachmann 2001), in relationships between individual actors and/or collective actors and not only as an attitude or state of mind of an individual.

How and *when* institutions matter with regard to trust building become relevant research questions, although not yet enough analysed in the academic literature (Bachmann and Inkpen 2011). Bachmann and Inkpen (2011, p. 284), through the concept of «institutional-based trust», define trust as «a form of individual or collective action that is constitutively embedded in the institutional environment in which a relationship is placed, building on favourable assumptions about the trustee's future behaviour vis-à-vis such conditions». The authors refer to trust as a phenomenon that individuals or collective actors develop in the face of a specific institution; moreover, «the characteristics of the institutional environment in which interactions are embedded are viewed as constitutive elements in trust development processes in inter-organizational relationships» (p. 284). The authors encourage more empirical studies to understand how exactly institutions work in the context of trust building and when they matter the most. How to measure trust in empirical research contexts represents the critical issue for replying to their invitation.

2.1 How can we measure institutional-based trust?

Considering trust as a multidimensional, relational and dynamic construct (Donolo, 2013; Ostrom, 1986) requires substantively rethinking the way of its measurement. This is especially relevant when we approach trust in institutions, under the framework of «institutional-based

trust». Trust in institutions indeed is not *always* or *only* generic, necessarily formalizable in a synthetic index that increase or decrease, but new research tools are required to better understand why citizens trust an institution, based on what experience and in relation to what beliefs and expectations (Mutti, 2003; Donolo, 2013; Cersosimo and Nisticò, 2008). Furthermore, trust has a *thematic* nature that is contextually defined and it changes through the interaction with the *specific* institution under analysis (Donolo, 2013). Substantial parts of literature on institutional trust borrowed tools traditionally used to measure trust in other people, assuming that the development of trust is essentially a micro-level phenomenon based on frequent contacts between individual actors and that institutions play no significant role in trust-building processes (OECD, 2018). As a consequence, descriptive outputs were mostly produced (*ibidem*). Less numerous are studies that try to propose new theoretical approaches to the study of institutional trust, especially at empirical level, with the aim to investigate institutional-based trust, in the sense proposed by Bachmann and Inkpen (2011). The OECD 2016 report makes it explicit that while the overcoming of “trust crisis” has become a policy priority, identifying credible measures of trust has become a practical challenge. According to the main results of the OECD Trustlab experiment (OECD, 2018), two types of trust measures have consolidated over time: self-reported and experimental measures. Because of its intangible nature, researchers (and policy makers) long relied on self-reported measures of trust, typically collected via household surveys (both at national and international level). Especially for trust in other people there is evidence that self-reported measures provide valid and reliable information while it has not been possible to actually observe trust as such. Moreover, poor consistent results have been achieved about the links between the different types of trust (generalised and focused) and the change of trust over time, in particular related on institutions (at a different levels), if not on an overly generic level (OECD, 2018; Wnag, Gordon, 2012). Glaeser *et al.* (2000), for example, questioned even the validity of surveys based on self-reported measures of trust in others, on the basis of their weak correlation with behavioural measures, emerging from experiments, on the same topic. Survey measures of trust in government have also been criticised for capturing the popularity of current governments rather than “structural” trust in governmental institutions (de Vries *et al.*, 2014). Standing on citizens’ evaluations of public services, Van Ryzin (2007) emphasises how, according to New Public Management Literature, self-reported measurement regularly had been found to be quite accurate with respect to objective performance indicators, emphasising the customer service as a means to strengthen trust (Aberbach, 2007). Nevertheless, Andrews and Van de Walle (2013) make evident how the direction of causality between quality of public services and trust is not straightforward, since levels of trust in institutions might also impact perceptions of quality of services received. The OECD study, using together self-reported and experimental measures and comparing different national contexts, provides some important suggestions both on measurement tools and on the different types of trust. In particular, with reference to institutional trust, the final report suggests that «despite a downward reporting bias that affects its overall level, self-reported trust in government does manage to capture implicit feelings of people vis-à-vis the government, and there is therefore positive evidence that survey measures are convergent valid» (OECD, 2018). Considering measurement tools, Trustlab experience provides «evidence that confirms the convergent validity of self-reported measures of both trust in others and trust in institutions» (*ibidem*, p. 51). Moreover, self-reported measures of trust in

institutions are validated by their experimental counterparts and the experimental measures indicate that more people may trust their government than implied by self-reported measures. Finally, perceptions of institutional performance strongly correlate with self-reported measures of both trust in government and trust in others. With respect to trust in institutions, Trustlab experience confirms that «self-reported (dis)trust in government is partially explained by people's perceptions of government values and government competence, including (dis)satisfaction with public services» (OECD, 2018; p. 41). Furthermore, the results indicate that «government reforms and improvements in public services can have a large impact on rebuilding trust in government if they translate into higher levels of service satisfaction and improvements in perceptions of government values and competence» (p. 44). Taking into account limitations, the OECD report envisages several directions for future study. First of all, new survey questions are encouraged, focused on specific policy interventions that are deemed capable of improving trust in institutions (2018). Second, new laboratory experiments are fostered with a strong policy content (specialisation of policy and/or specialisation of institution) or, alternatively, experiments related to other social norms (for example: corruption, sense of effort, time preferences).

Going further and strengthening the «institution-based trust» framework, we operationalized the methodological recommendations from the Trustlab through a case study (Flyvbjerg, 2006). Therefore, we designed a research context driven by specialisation: time, space and institutions (with the related services provided) were strictly defined. The same attention was paid to the definition of the (sample of) subjects whose interaction with the selected institutions we intended to analyse. Finally, the survey construction process was inspired by a dynamic approach, taking into account the variation of trust in institutions rather than its objective quantification. For the purposes of this work, the pandemic represented an unexpected «experimental» context.

3. The case study selection and the survey

A survey on women's psychological well-being in a pandemic, conducted in collaboration with a local trade union, was an opportunity to investigate trust in institutions, under the «institution-based trust» theoretical framework. The research was carried out in the province of Modena (in Emilia-Romagna region) by a questionnaire aimed exclusively at women. A total of 574 responses were collected.

The specific regional context represents a first point of interest for the aim of this paper. During the pandemic, indeed, regional institutions were directly involved as implementing bodies of public support and contingency measures, within a national guidelines' framework (Giarelli and Vicarelli, 2020). Putnam already described the Emilia-Romagna region as «having many active community organisations; citizens are engaged by public issues; they trust one another to act fairly to obey the law; social and political networks are organised horizontally» (Putnam, 1994). These «civic communities» value solidarity, civic participation and integrity and here - quoting Putnam - «democracy works» (ibidem p. 8). Putnam identifies the quality of institutions as a relevant component of this regional context. In 2021, the European Government Quality Index (EQI) confirms the general poor quality of Italian institutions, however, at the regional level, Emilia-Romagna ranks third, not too far from the average values of the best

performing European regions. In addition, although in Italy trust in institutions has relatively low values compared to other European Countries, Emilia-Romagna - along with the other Northeast Regions - express high average values, especially toward local institutions (Istat, 2021). Referring to the institutional governance, the Emilia-Romagna model is characterised by a high intensity of services, in which the very institution (regional and municipal) plays a pivotal role in terms of direction and coordination (Madama 2010; Casula, 2015; Raniolo *et al.* 1985). In addition, with respect to social-health and welfare policies - the sectors most affected during pandemic - the Emilia-Romagna model is characterised by strong regional regulation, with a central but not dominant role of the public institution that promotes a concerted-negotiation strategy. In this context, partnership with the Third Sector and civil society become crucial at the local level for the planning, delivery and evaluation of services (Lumino and Pirone 2013).

The selection of a subsample among respondents is the second element of interest. According to Alesina and La Ferrara (2002), some individual experiences and characteristics influence trust in other people: (1) belonging to a group that historically has discriminated against such as women, (2) being economically unsuccessful in term of income and education and (3) a recent history of traumatic experience are, among others, the strongest factors that reduce trust in others. Although the direct correlation of these individual characteristics with trust in institutions has not found the same empirical evidence (Alesina and La Ferrara, 2002), using these three variables to select the subsample allowed us to construct an «informed case study» (Flyvbjerg, 2006), functional for subsequent modelling.

The final sample consists therefore of 506 female workers² whose socio-demographic characteristics are shown in Table 1. Most of the respondents are between 40 and 55 years old (60%), and 33.6% claim to be residents of the city of Modena. Female workers are distributed almost equally between public (municipality, hospitals or public schools) and private sector (manufacturing, services/financial sector).

Table 1. Descriptive statistics

Variable	(%)	N	Variable	(%)	N
<i>Age</i>			<i>Sectors</i>		
18-29	4.4%	22	Private sector	46%	233
30-39	15.6%	79	Public sector	54%	273
40-54	60%	304	<i>Mother</i>		
55+	20%	101	No	26.5%	133
<i>Education</i>			Yes	73.5%	369
Primary	10,9%	55	<i>Type of work</i>		
Secondary	51.6	261	Presence based work	81.8%	414
Tertiary	37%	187	Remote work	13.2%	66
<i>Place of Residence</i>			Mixed work	4.4%	22
Modena Municipality	33.6%	170			
Other areas in province	66.4%	336			

² Students, unemployed and retirees were excluded from the sample.

At the time of the survey, 81.8% worked in presence, while only 17.7% worked remotely or in mixed mode. Most of the respondents (51.6%) have a qualification falling into the secondary education (high school diploma; VET), while 37% of female workers have a tertiary education (bachelor's, master's, master's, PhD). Finally, more than 73% have one or more children. One set of questions was intended to measure the change in the sample's household income: as a result of the pandemic, the 57% of the women detect no change in their income; the 60% had no problems paying rent, the 63% had no problems paying bills, and the 57% had no problems with food shopping.

The survey took place during the month of May 2021 a period of gradual exit from the strict national lockdown. The pandemic thus represents the «recent traumatic experience» discussed by Alesina and La Ferrara (2000) that, in Italy, has had specific consequences for women (Del Boca *et al.*, 2020). In particular, the closure of school and care services with the consequent increase in family burdens, combined with remote work, had negative effects on individual women psychological well-being (Profeta, 2020; Bordandini *et al.* 2020). The perception of a worsening in psychological well-being is widespread also in the sample, as Table 2 shows.

Table 2. Perceived psychological well-being

	Increased a lot	Increased	No change	Decreased	Decreased a lot
<i>Anxiety</i>	22.1%	25.3%	34.6%	10.3%	7.7%
<i>Stress</i>	27.2%	22.7%	26.7%	13%	10.28
<i>Tension</i>	23.9%	24.5%	29.2%	13.8%	8.5%
<i>Fear</i>	19%	25.9%	33.6%	11.7%	9.9%

In general, the pandemic has resulted in a generalised loss of trust in institutions among the sample surveyed: trust in political parties (73%), the Government (49%), schools (48%), the European Union (46%), and the church (45%) decreases. Trust in individual citizens also decreases significantly (58%) while trust in voluntary organisations remains stable. On the other hand, an increase in trust is noted toward scientific research in a general sense (42%), and specifically for local health care (43%) but also for local institutions, particularly the Region and the Municipality (26%). Fukuyama (1995) suggests that the level of trust of a society is the basis of the well-being of its citizens; as a consequence, higher levels of trust are closely associated with greater life satisfaction and subjective well-being in communities, workplaces and nations (Boarini et al 2012; Helliwell, Wang, 2010; Morrone *et al.* 2009). According to this point of view, perceived variation in subjective psychological well-being is selected as a dependent variable in our modelling (as further explained in the following section). In the situation of need generated by the pandemic, about half of the selected sample requested at least one support among those allocated by the national government; the 70% of the support were requested from a primarily national-level institution. As further detailed above, good governance and *specific* policies have a significant impact on trust in institutions (Morrone *et al.* 2009). The ability of the government to provide a trustworthy environment and to deliver services honestly and efficiently is of paramount importance for life satisfaction also in countries with bad governance and low incomes (Helliwel and Huang, 2008). Consistent with

this acquisition, the effectiveness of public supports, implemented during the pandemic, as perceived by the sample, represents our empirical referent for individual interaction with institutions.

Finally, at a methodological level, we considered trust as a dynamic construct, generated in the interaction between individual and institution. For this reason, the women interviewed were asked to express their evaluations - on trust, on their psychological well-being, on the quality of public support - in terms of increase or decrease during the pandemic year. The case study so far described allows us to in depth investigate the functioning of trust in institutions, referring to a sample homogeneous in gender and employment status, strongly affected by a recent traumatic event (pandemic) with respect to the perceived individual well-being.

4. Empirical methodology

The relationship between public support and psychological well-being appears to be complex and not directly related to variation in well-being. In particular, characteristics of the territory and institutions, social organisation and trust may play a key role. Therefore, to investigate how trust enters into the relationship between perceived public support and psychological well-being, we develop a mediation model exploring the mediating effects of trust on well-being. Below, we first present the main variables used in the analysis and then the empirical model used

The main variables used in the empirical strategy are composite indices obtained by means of Non-Linear Principal Components (NLPCA). This technique using optimal scaling allows handling categorical data and returns quantified principal components (factors). Detailed descriptions of the survey questions and the resulting component loadings from the NLPCA identifying factors are provided in the appendix (Tables A1 and A2). In the following, we report the description of the factors and other independent variables used in the econometric analysis and listed in the tables.

The factor *Trust1* contains items indicating the variation of institutional trust at supra-national and national level. Specifically, the participants report how trust in the European Union, Government, scientific research community, national health system (Sistema Sanitario Nazionale, SSN) and political parties has changed. The variance accounted for (VAF) by the first principal component is 67% (eigenvalue = 2.69) while the Cronbach's α , a measure of internal consistency, is equal to 0.895.

The factor *Trust2* captures the local dimension of institutional trust. This factor is computed by the items capturing trust variation in Region and Municipality, local health service (e.g., Azienda sanitaria locale, ASL; family doctor), schools, local police. The items show a good consistency with a Cronbach's α equal to 0.803, while the first component explains the 63% of the variability (eigenvalue = 2.51).

The factor *Trust3* expresses variation in trust in people and toward civil society organisations such as religious institutions (e.g., Catholic church), voluntary associations (religious or secular). The VAF is 65% (eigenvalue = 1.95), whereas the Cronbach's α is equal to 0.732 indicating a good consistency.

The factor *Perceived Public Supports* indicates the variation in the perception of effectiveness in public support. It is both defined on the basis of perceived ease of obtaining

support and its perceived fairness. The Cronbach's α of this factor is equal to 0.902. (eigenvalue = 3.04).

The factor *Psychological Perceived Well-being* represents the perceived psychological well-being, that is, a composite indicator that takes into account anxiety, stress, tension and fear (eigenvalue = 4.23).

In addition, we control for demographic and social characteristics: participants are grouped into age groups (i.e., "Age 18-29"; "Age 30-39"; "Age 40-54"; "Age 55+") and education levels ("Primary education"; "Secondary education"; "Tertiary education"). We distinguish between women residing in the city of Modena from those residing in a town in the province ("Modena" =1), being a mother ("Mother" =1) and working in the public sector ("Public" =1).

Finally, an additional indicator was built to capture the variation of economic and financial conditions as perceived by the respondents. The factor *Financial Situation* combines economic variables linked to variation in household income, ability to pay house rental, bills, food expenditure and interned and devices expenses. It captures the economic and the financial condition of respondents. The Cronbach's α equal to 0.919 while the first component explains the 75% of the variability (eigenvalue = 3.77).

As explained above, several authors believe that trust in institutions is directly related to citizens' actual use of policy measures. To test this hypothesis, we included four dummy variables indicating whether the respondents requested support to public institutions ("Experimented Public support"), to lay and religious voluntaries organisations ("Voluntary support"), to family, friends and online communities ("Networks support"), to trade union, company and/or employer ("Labour market support"). To examine whether the three levels of trust (*Trust 1*, *Trust 2*, *Trust 3*) mediate the effects of the perceived effectiveness of public supports on the perceived psychological well-being, we perform a mediation analysis³. The model is represented in Figure 1 and described by the following equations:

$$(1) \quad M_{1i} = \beta_0 + \beta_1 x_i + \alpha z'_i + \epsilon_i$$

$$(2) \quad M_{2i} = \beta_0 + \beta_1 x_i + \alpha z'_i + \epsilon_i$$

$$(3) \quad M_{3i} = \beta_0 + \beta_1 x_i + \alpha z'_i + \epsilon_i$$

$$(4) \quad y_i = \beta_0 + \beta_1 x_i + \beta_2 M_{1i} + \beta_3 M_{2i} + \beta_4 M_{3i} + \alpha z'_i + \epsilon_i$$

where x_i is the public support and M_{1i} , M_{2i} , and M_{3i} , indicate the mediators: Trust1, Trust2 and Trust3, respectively. The vector of control variables is denoted by z'_i where α is the vector of corresponding coefficients. Finally, the dependent variable y_i represent the perceived psychological well-being.

³ The analysis is conducted using Hayes' PROCESS Macro SPSS (Version 4.0 - Model 4).

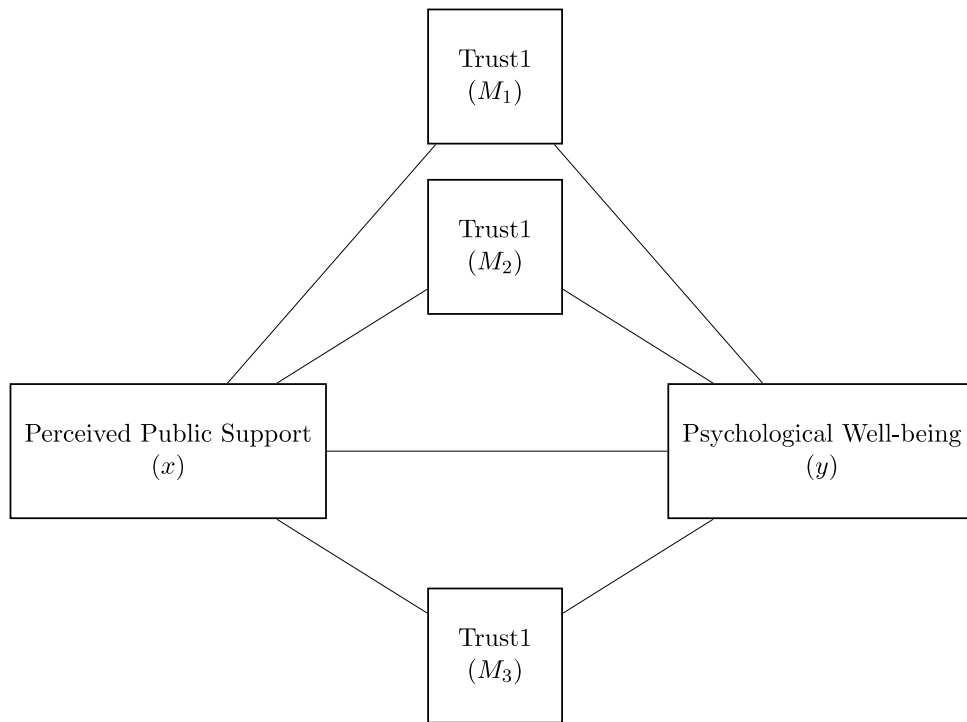


Figure 1. Path Diagram of the effect of perceived effectiveness of public support (“Perceived Public Support”) on the perceived psychological well-being (“Psychological well-being”) mediated by different types of trust.

5. Data Analysis and findings

The results of the mediation analysis on the effects of perceived effectiveness of public support (“Perceived Public Support”) on the perceived psychological well-being (“Psychological well-being”), eventually mediated by different types of trust, are shown in Table 3 and Table 4. Specifically, Table 3 presents the estimated regressions, named Path a1, Path a2, Path a3 and Path b, defining the full mediation model, while Table 4 provides the direct and indirect effects.

“Perceived Public support” shows statistically significant and positive effects on all the levels of trust (path a1, a2 and a3): individuals who positively evaluate the effectiveness of public support show higher levels of Trust1 ($\beta = 0.42, p \leq 0.01$), Trust2 ($\beta = 0.41, p \leq 0.01$) and Trust3. Having asked for support (“Experimented Public support”, “Voluntary support”, “Networks support”, and “Labour market support”) does not have a significant effect on the trust variables except for Trust 3. This result suggests how, during the pandemic, support is primarily related to institutional action, especially at the local and national levels.

Young female workers, represented by the excluded group (Age 18-29) appear to have the lowest level of all three types of trust. However, the effect is significant only in relation to the group of older women (Age 55+), who show higher trust in supra-national, national trust and in trust in people and civil society organisations, in fact Trust1 ($\beta = 0.41, p \leq 0.10$) and Trust2 ($\beta = 0.53, p \leq 0.05$). Furthermore, most of the control variables, such as being a mother, living in Modena, or education levels, exhibit no significant differences on the three levels of trust, whereas statistically significant differences emerge regarding sectors. Specifically, female workers in the public sector are found to have higher levels of Trust1 ($\beta =$

0.26, $p \leq 0.01$) Trust2 ($\beta = 0.31, p \leq 0.01$) and Trust3 ($\beta = 0.26, p \leq 0.01$). Finally, “Financial situation” shows a significant effect on Trust3 ($\beta = 0.09, p \leq 0.05$), while it does not appear to be a significant determinant for Trust1 and Trust2. Turning to the analysis of the “Perceived Psychological well-being” (path b), Trust1 and Trust3 are not significant in explaining variation in perceived well-being. On the contrary, Trust2 shows a positive and statistically significant coefficient ($\beta = 0.19, p \leq 0.05$), meaning that workers with a positive variation in trust in local institutions exhibit a higher level of perceived psychological well-being. All control variables are not significant in explaining the difference in physiological well-being among female workers, except for “Financial situation” that increases perceived well-being ($\beta = 0.21, p \leq 0.01$).

Table 3. Mediation analysis

	Path a1: Trust1	Path a2: Trust2	Path a3: Trust3	Path b: Psychological Well-being
	β (SE)	β (SE)	β (SE)	β (SE)
Constant	-0.57** (0.23)	-0.55** (0.24)	-0.62** (0.25)	0.11 (0.26)
Perceived Public Support (x_i)	0.46*** (0.04)	0.42*** (0.04)	0.38*** (0.04)	0.05 (0.05)
Trust1 (M_{1i})				-0.06 (0.07)
Trust2 (M_{3i})				0.18** (0.08)
Trust3 (M_{3i})				0.01 (0.06)
Public sector	0.26*** (0.08)	0.30*** (0.08)	0.26*** (0.09)	0.02 (0.09)
Modena	0.50 (0.08)	0.01 (0.09)	0.04 (0.08)	-0.15 (0.09)
Mother	-0.01 (0.09)	0.01 (0.09)	0.02 (0.09)	-0.11 (0.11)
Financial situation	-0.01 (0.04)	0.04 (0.04)	0.08** (0.04)	0.21*** (0.04)
Experimented Public support	-0.09 (0.09)	0.04 (0.09)	-0.23** (0.09)	-0.11 (0.10)
Voluntary support	-0.04 (0.15)	-0.04 (0.15)	0.18 (0.15)	-0.04 (0.16)
Networks support	0.05 (0.09)	0.02 (0.09)	0.14 (0.09)	-0.06 (0.09)
Labour market support	0.03 (0.11)	0.07 (0.11)	-0.04 (0.11)	-0.06 (0.13)
<i>(Age 18-29 excluded)</i>				
Age 30-39	0.21 (0.22)	0.22 (0.22)	0.17 (0.22)	0.11 (0.24)
Age 40-55	0.27 (0.21)	0.26 (0.21)	0.36 (0.21)	0.04 (0.23)
Age 55+	0.43* (0.22)	0.35 (0.23)	0.58** (0.23)	-0.39 (0.25)
<i>(Primary education excluded)</i>				
Secondary education	0.13 (0.13)	0.13 (0.13)	0.10 (0.13)	0.02 (0.14)
Tertiary education	0.21 (0.14)	0.19 (0.15)	0.15 (0.15)	-0.04 (0.16)
R-squared	0.246	0.228	0.206	0.086
N	506	506	506	506

Note: Standard errors in parentheses (SE); * $p < .10$, ** $p < .05$, *** $p < .01$.

We do not find a significant direct effect of "Perceived public support" on perceived psychological well-being (see Table 2), however through its positive and significant relationship with Trust2, it indirectly impacts well-being ($effect = 0.07$, CI [0.022, 0.158]).

Table 4. Direct and Indirect effects of Perceived Public Support on Psychological Well-being

	β (SE)	LLCI	ULCI
Direct effect (total)	0.04 (0.05)	-0.053	0.145
Indirect effect through Trust1	-0.02 (0.03)	-0.099	0.043
Indirect effect through Trust2	0.08 (0.03)	<i>0.031</i>	<i>0.159</i>
Indirect effect through Trust3	-0.01 (0.02)	-0.060	0.053

6. Discussion and conclusions

We took the opportunity to in-depth investigate the functioning of trust in institutions by conducting a case analysis, using a homogeneous sample in terms of gender and employment status, strongly affected by a recent traumatic event (pandemic) with respect to perceived individual well-being. The sample selection, the careful temporal (the months following the pandemic) and spatial contextualization (the province of Modena in the Emilia Romagna region) together with a clear identification of the public supports under analysis (those needed during the pandemic) further strengthened the main findings of the mediation model developed.

First of all, the model confirms that the perceived effectiveness of policies (their ease of access and their adequacy) affects individual well-being: the more positively a citizen rates the effectiveness of policies, the more his or her perceived well-being improves. The effect on perceived individual well-being, however, is not direct but mediated by the citizen's trust in institutions. This is particularly true at the local level (Trust 2). The same effect is not actually observed for national and supra-national institutions (Trust 1), which are far from citizens and with which citizens do not have direct interaction. Similarly, the analysis shows that those who live in the province of Modena, far from the city and away from the services, rate the effectiveness of policies less positively. On the contrary, those who work inside the public sector, having more direct knowledge of institutional mechanisms, express a higher level of trust at all levels. Institutions matter most at the local level and, if public support is required, trust in institutions matters for individual well-being even more than trust in other people or in Third Sector Organizations (Trust 3). This result, however, in our opinion is strongly influenced by the social context of the Emilia-Romagna region and by the model of policy governance described above. In a situation of generalised emergency, trust in institutions positively influences the wellbeing of those seeking public support; trust in others and Third Sector Organizations is an additional or supplementary element.

A further step may be ventured. At the local level, the variation in institutional trust mediates the relationship between the perceived effectiveness of policy and the perceived individual well-being even when respondents do not seek public support. Therefore, trust is not exclusively built through the direct interaction that citizens have at a micro-level, with the institution.

These results confirm that trust in institutions is a dynamic process growing up through repeated interactions in a given space-time context. On one hand, trust is built on the basis of the concrete experiences that citizens have with institutions, through the relationship built inside the «access nodes» with professionals who work in the services. On the other hand, however, trust can be conceptualised as an «organising principle» (McEvily et al. 2003) or an efficient means to coordinate expectations and interactions toward institutions, strongly

embedded in the territory and in the policy governance models. As pointed out by Putnam, there are significant positive correlations between the trust focused on a specific institution and the generalised trust affecting the performance of a territory's institutions and the quality of its governance. Institutional trust is thus built socially, from micro and macro levels, constituting each other in the course of a temporal process (Giddens, 1981).

Furthermore, this work confirms that trust in institutions has a *thematic* nature that is contextually defined and it changes through the interaction with the *specific* institution under analysis. Referring to the method, it is not possible to in-depth analyse trust in institutions without an empirical referent, that is, without linking trust to a specific institution and a specific policy. In addition, at a methodological level, this work highlights the importance of investigating trust in institutions as a perceived variation rather than a net measure.

The paper is not exempted from some limitations that give room to further research avenues. In particular, the mediation model could be applied to a non-women-only sample and in different regional contexts in order to verify equalities (or differences) in the results and test the robustness of the model itself.

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Appendix

Table A1. Questions, variables and abbreviations used in the text and in the tables.

	Description
<i>Question</i>	Q1: How old are you?
<i>Variable</i>	“Age 18-29” (=1 if the person falls within the age group) “Age 30-39” (=1 if the person falls within the age group) “Age 40-55” (=1 if the person falls within the age group) “Age 55+” (=1 if the person falls within the age group)
<i>Question</i>	Q2: Do you have any children?
<i>Variable</i>	“Mother” (= 1 if the person has children)
<i>Question</i>	Q3: Where do you live?
<i>Variable</i>	“Modena” (= 1 if the person lives in the city of Modena, 0 = town in the province)
<i>Question</i>	Q4: What is the highest level of education you have completed?
<i>Variable</i>	“Primary Education” (Dummy - ISCED levels 0–2 = 1)
<i>Variable</i>	“Secondary Education” (Dummy - ISCED levels 3–4 = 1)
<i>Variable</i>	“Tertiary Education” (Dummy - ISCED levels 5-6 = 1)
<i>Question</i>	Q5: Are you working in...?
<i>Variable</i>	“Public sector” (= 1 if the person works in public sector, = 0 private sector)
<i>Question</i>	Q6: During the last 12 months has your financial situation changed in any of the following ways? (On a scale: 1-decreased a lot, 3-no change and 5-increased a lot).
	Household income Ability to pay mortgage repayments or rent Ability to pay bills Ability to pay for food expenditure Ability to pay for internet and device expenses
<i>Variable</i>	“Financial situation” (Indicator from NPCA)
<i>Question</i>	Q7a: From which of the following institutions have you sought support? (e.g., financial, social, healthcare, moral, psychological)
	Government Municipality Region Police Local health service
<i>Variable</i>	“Experimented Public support” =1 if the person asked for support)

Continued on next page

Table A1 – Continued from previous page

<i>Question</i>	Q7b: From which of the following institutions have you sought support?
	Voluntary associations (religious) Voluntary associations (lay) Red Cross Solidarity Emporiums Organizations of public assistance (e.g., Blue Cross ambulance)
<i>Variable</i>	“Voluntary support” (=1 if the person asked for support)
<i>Question</i>	Q7c: From which of the following networks have you sought support?
	Friends Family Online community
<i>Variable</i>	“Network support” (=1 if the person asked for support)
<i>Question</i>	Q7d: From which of the following institutions have you sought support?
	Trade union Company/employer
<i>Variable</i>	“Labour market support” (=1 if the person asked for support)
<i>Question</i>	Q8: During the last 12 months has your trust in the following institutions changed? (On a scale: 1-decreased a lot, 3-no change and 5-increased a lot).
	European Union Government Scientific research and National health system Political parties
<i>Variable</i>	“Trust 1” (Indicator from NPCA) Region, and municipality Local health care Schools Local Police
<i>Variable</i>	“Trust 2” (Indicator from NPCA) Church and religious voluntary associations Lay voluntary associations Individual citizens
<i>Variable</i>	“Trust 3” (Indicator from NPCA)
<i>Question</i>	Q9: How much the following feelings have changed as a result of the Covid-19 (on a scale: 1-increased a lot, 3-no change and 5-decreased a lot).
	Anxiety Stress Tension Fear Anger
<i>Variable</i>	“Psychological Well-being” (Indicator from NPCA)

Table A2. Component Loadings and Cronbach's α .

Items	(1)	(2)	(3)	(4)	(5)	(6)
Trust 1						
European Union	0.88					
Government	0.88					
Scientific research and national health service	0.79					
Political parties	0.72					
Trust 2						
Region, and municipality		0.78				
Local health care		0.83				
Schools		0.75				
Local Police		0.81				
Trust 3						
Church and religious voluntary associations			0.82			
Lay voluntary associations			0.84			
Individual citizens			0.75			
Psychological Well-being						
Anxiety				0.86		
Stress				0.93		
Tension				0.84		
Fear				0.78		
Anger				0.69		
Perceived Public Support						
Measures reach those most in need					0.85	
Obtaining support is simple					0.86	
Criteria for obtaining support measures are clear					0.89	
Support measures are fair					0.88	
Financial situation						
Household income						0.79
Ability to pay the mortgage or rent						0.91
Ability to pay bills						0.90
Ability to pay for food expenditure						0.91
Ability to pay for internet and device expenses						0.83
Cronbach's Alpha	0.84	0.81	0.73	0.92	0.89	0.92