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article

Government's social responsibility, citizen satisfaction and trust

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This article investigates the complex relationships between citizens' perceptions about the government's social responsibility, their satisfaction with public services and their trust in government institutions. It uses data from a national survey of citizens in Israel and focuses on satisfaction with health care. We build on previous bureaucratic and administrative theory, and suggest two competing models of these relationships: (1) perceptions about the government's social responsibility are a source of citizens' satisfaction and trust; and (2) perceptions about the government's social responsibility are an outcome of citizens' satisfaction and trust. Our findings demonstrate the important role of public perceptions about the government's social responsibility, as well as the perceived performance of public health-care services, in building trust among citizens. The article also highlights the methodological challenges of determining cause and effect in research on trust.

Key words government • social responsibility • trust • satisfaction • health care • public perceptions • Israel

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Introduction

In recent decades, there has been growing scholarly interest in the various aspects of public trust in government and its possible impact on society and effective governance (Cook et al, 2005; Hardin, 2006; Keele, 2007; Cleary and Stokes, 2009; Bouckaert, 2012; Vigoda-Gadot and Mizrahi, 2014; Giordano and Lindström, 2016; Sønderskov and Dinesen, 2016). There are several working definitions of trust but the core idea is that trust in government reflects the 'faith people have in their government' (Coulson, 1998; Citrin and Muste, 1999; Nannestad, 2008). It indicates citizens' overall evaluation of how government works and their confidence in the good intentions of public officials to promote the public interest. Explanations about trust in government range from socio-economic conditions and the satisfaction of citizens with these conditions

(Jordahl, 2008; Nannestad, 2008; Bergh and Bjørnskov, 2013), to social relations and social capital (Uslaner, 2002; Keele, 2007; Robbins, 2012; Sønderskov and Dinesen, 2016), and even further to the actions and performance of public sector officials and politicians (Chanley et al, 2000; Keele, 2007; Bouckaert, 2012; Hakhverdian and Mayne, 2012; Khan, 2016).

This study takes a somewhat different approach. We focus on the role of citizens' perceptions about the government's social responsibility in determining their trust in the government. We suggest that these perceptions express predispositions about the role of government in our lives. They are especially important when considering the growing debate between supporters of the welfare state and market-dominant doctrines. The welfare state doctrine maintains that the government plays a key role in ensuring citizens' quality of life and reducing social gaps. Alternatively, the more liberal, market-oriented doctrine minimises the role of government and argues that individuals are responsible for shaping their own future, in health care as much as in other areas in life.

Public views about the government's social responsibility reflect people's values regarding the state's role in providing social welfare and promoting fairness and equity. Therefore, these views may influence the ways in which people view the government and its operation, as well as their own response to it. Accordingly, our research questions investigate whether and how public perceptions about the government's social responsibility are related to public trust in government. By integrating public perceptions about the government's social responsibility into the research on trust, we emphasise the relevance of intrinsic, rather than only extrinsic, explanations of trust. Furthermore, public trust in government stands at the core of the social contract between the state and its citizens, as does the social responsibility of the government. It is therefore imperative to test the relations between these two concepts.

The article reviews the literature on the social responsibility of government, especially with regard to health-care services, and develops a rationale for its complex relationship with citizens' satisfaction with and trust in health-care institutions. We create two competing models and test them empirically. One model views public perceptions about the government's social responsibility as an independent variable, meaning that it influences trust in government. The second model tests whether trust influences public perceptions about the government's social responsibility. Accordingly, we propose four hypotheses that also consider citizens' satisfaction with health-care services as a mediator in the relationship between perceptions about the government's social responsibility and trust in health-care services. The findings strongly support the mediation effect.

Nevertheless, we also note that perceptions about the government's social responsibility may both affect and be affected by citizens' satisfaction with and trust in government. Hence, our findings have implications for the study of social policy, public administration and health policy, as well as public management and the role of public perceptions about the government's social responsibility in shaping democratic resilience via citizens' trust in and satisfaction with the government.

The complexity of the relationship between public perceptions about the government's social responsibility and citizens' trust in and satisfaction with the government has significant theoretical implications for health-care systems and health policy. Public management research views trust in public organisations as an important goal because it stabilises cooperative relations between citizens and public officials,

reduces the costs of transactions, and contributes to economic growth and social welfare (North, 1990; Rothstein and Stolle, 2008; Bouckaert, 2012; Robbins, 2012). Scholars have therefore devoted many efforts to identifying the antecedents of trust in public organisations. However, if the relations between these supposed antecedents and trust work in both directions, then this would mean that we know very little about the ways in which citizens determine their trust in public organisations and the government. For example, the research-based view that improving public sector performance in general, and creating better health-care policies in particular, will increase trust in the public sector health-care system may stand on shaky ground if we show that trust itself has a similar effect on performance and policies. Such a result may imply that citizens determine their trust in government independently of its performance, policies or other independent variables.

Perceptions about the government's social responsibility and citizens' trust in and satisfaction with public health care: a theoretical look into complex relations

The literature is rife with studies on citizens' trust in and satisfaction with government. Both of these factors play a central role in studies about democracy, legitimacy and administrative performance. On the one hand, these two factors are mutually related. On the other hand, both often depend on prior ideology and expectations regarding the role of government and its responsibility to provide public goods and services (Sacks and Larizza, 2012; Mcloughlin, 2015). These views and beliefs are also best expressed in citizens' attitudes about the desired scope and services of the welfare state (Kruk et al, 2010: 94; Mcloughlin, 2015: 345). For example, if citizens are dissatisfied with government services, they may lose trust in the government and conclude that they cannot rely on it to improve their lives. Hence, they may prefer less government intervention and fewer welfare state services. Alternatively, people with strong market-oriented views will probably favour less government intervention in daily life anyway. These citizens' trust in and satisfaction with government may have little to do with their perceptions about the government's social responsibility. Therefore, there may be complex relations between these constructs, as the literature on public trust in government has already recognised in other contexts (Robbins, 2012; Giordano and Lindström, 2016; Sønderskov and Dinesen, 2016).

Levels of trust are generally measured by surveys and interviews, using several indicators. As the literature demonstrates, trust may be studied and measured at the macro and/or micro level (Bouckaert and Van de Walle, 2003; Bouckaert, 2012; Grimmelikhuijsen and Knies, 2017). Studies at the macro level look at trust in the government as a whole or at specific sectors and organisations (Keele, 2007; Hakhverdian and Mayne, 2012; Sønderskov and Dinesen, 2016). It follows that trust is a form of belief or a perception with no direct behavioural implications.

In this article, we focus on citizens' trust in public health-care organisations. Public health-care systems include public organisations, such as hospitals, and public servants, such as physicians, nurses and administrators. Thus, we may view these systems as part of the public sector and analyse public attitudes about and trust in them in terms of trust in public sector organisations (Gille et al, 2015). However, according to this view, in defining and measuring that trust, we should include and aggregate trust in health-care organisations, their managements and their staff (Grimmelikhuijsen and

Knies, 2017). Sacks and Larizza (2012) adopt such a measure for trust in government, and a similar measure will be use here.

As various studies in the area of public health care have indicated, trust in health-care institutions and policies is not exceptional when compared with other forms of trust (Rocco, 2014; Gille et al, 2015; Giordano and Lindström, 2016; Lindström, 2011). Gille et al (2015) maintain that trust in public health care in the US has deteriorated, calling for a deep exploration of the determinants of that trust. An Organisation for Economic Co-operation and Development (OECD, 2015) report provides similar indications for many other countries. Public health care is one of the foundations of the welfare state, meaning that strong public feelings in favour of it may influence citizens' trust in these systems. When citizens trust public health care, they may conclude that the government is fulfilling its mission to keep the public safe and strengthening the values of the welfare state, such as fairness and equal opportunities.

Thus, complex relations may exist between citizens' core views and positions about the government's social responsibility in the field of health-care services, as well as trust in and satisfaction with these services. Some studies describe this as the cyclic nature of trust relations (Van de Walle and Bouckaert, 2003; Hardin, 2006) and point to an elementary problem of theories in this field: the complex relationship may undermine any explanation of institutional trust, as well as attempts to strengthen trust in government through the various means suggested in the literature.

Two models and four hypotheses

Our theoretical and conceptual framework tries to explain trust in government by combining citizens' attitudes regarding the government's responsibility to provide services and their subjective evaluations of public services, as expressed in their satisfaction with these services. Our two models depict two alternatives to such relations. The model in Figure 1a suggests that perceptions about the government's social responsibility affects trust in the government, with satisfaction with it as a mediator. In contrast, the model in Figure 1b suggests that trust in the government affects perceptions about the government's social responsibility, both directly and indirectly via satisfaction with it. In both models, satisfaction serves as a mediator. When combined, both models describe complex relations, or what may be termed a virtuous or vicious circle, depending on whether one of the elements changes in a positive or negative way.

Figure 1a: Perceptions about the government's social responsibility as a source of satisfaction and trust

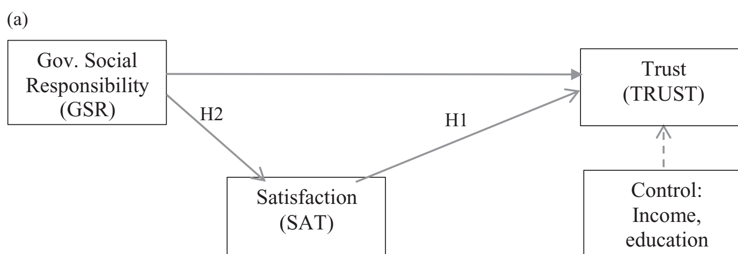


Figure 1b: Perceptions about the government's social responsibility as an outcome of satisfaction and trust

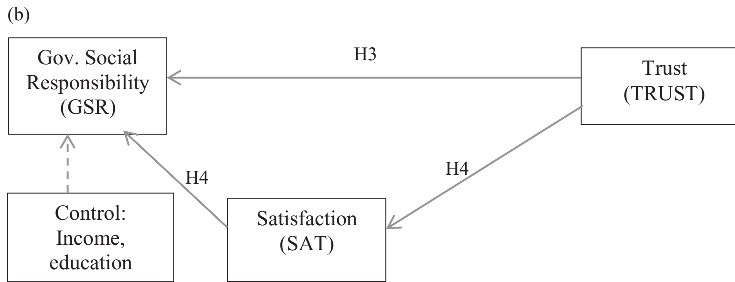


Figure 1a presents a model where trust is the dependent variable, leading to two hypotheses.

H1: Citizens' satisfaction with public health care is positively related to their trust in public health care.
H2: Citizens' satisfaction with health-care services mediates the impact of perceptions about the government's social responsibility on trust in health-care services.

The first hypothesis clearly aligns with the mainstream research about public trust in government (Luhmann, 1988; Hardin, 2006; Bouckaert, 2012; Sønderskov and Dinesen, 2016). Studies have also demonstrated that people's trust is strongly related to satisfaction with the government, indicating that past and present public sector outputs meet their demands and needs (Van Ryzin, 2004; Kampen et al, 2006). This finding also applies to the health-care sector (Van Ryzin, 2004; Kampen et al, 2006; Vigoda-Gadot and Mizrahi, 2014). Hypothesis 1 is thus straightforward.

Nevertheless, this view may oversimplify reality. There are indications that citizens evaluate government performance relative to a certain reference point. Kampen et al (2006) argue that the causal relationship between satisfaction and trust cannot be fruitfully analysed unless the measures are controlled for a common component, which they identify as the predisposition towards government. Their empirical results suggest that the impact of a negative experience with a public agency is much more pronounced than the effect of a positive one.

In their study of service delivery and legitimacy in fragile and conflict-affected states, Brinkerhoff et al (2012) maintain that the association between the quality of service delivery and the legitimacy of the state depends on certain starting points. Mcloughlin (2015) adds other conditions that relate to the actual setting of service provision, such as the relational aspects of provision and the ease of attributing performance to the state. In addition, Mcloughlin also suggests that the relationship between government performance in delivering services and its degree of legitimacy is moderated by citizens' expectations of what the state *should* provide. This condition refers to the beliefs that citizens hold regarding the government's social responsibility to the public.

These studies explain issues related to the government's legitimacy, which is the belief in the appropriateness of rules and laws (Levi and Sacks, 2007; Levi et al, 2009). Trust is about the credibility of promises made that adhere to these rules and laws. While these studies show that people's predispositions, combined with their evaluation

of government performance, influence their perceptions about the government's legitimacy, we would also expect this combination of variables to affect their trust in it. In order to trust a government that citizens see as providing services that correspond to what they believe is an elementary 'good' for society, they must also evaluate it as performing well (Beetham, 1991; Saward, 1992). Only when citizens' expectations accord with the degree of satisfaction that they have with the services they receive will they have faith in government commitments and trust that it works for the public interest.

Indeed, this is the logic of the second hypothesis: citizens' satisfaction with government performance mediates between beliefs about the government's social responsibility and trust in the sense that these beliefs go through the prism of performance evaluation and only then influence trust. In other words, we hypothesise that the relationship between perceptions about the government's social responsibility and trust is indirect, whereas the relationship between satisfaction and trust is direct. Note, however, that as part of the mediation analysis, we will also test the direct relationship between the government's social responsibility and trust, represented by an arrow in Figure 1a.

This rationale is particularly applicable to the health-care system. Even people who believe that the government should be responsible for providing health-care services will not automatically trust public health care. Rather, they may adopt a more critical view and observe the functioning of that system and the extent to which it corresponds to their expectations. Their actual satisfaction with the outputs will more strongly determine their level of trust. For example, people who strongly believe that the government should be the sole provider of health-care services may be very critical about the specific ways in which such a system works. In such cases, they will trust it only to a limited extent.

At this point, we turn to a major theoretical and empirical challenge in the research on trust: the possibility that the relations between trust and other variables work in both directions. The literature often focuses on reciprocal relations between generalised social trust and social relations (Sønderskov and Dinesen, 2016), government effectiveness (Nannestad, 2008; Robbins, 2012) and the views of the public (Hardin, 2006; Giordano and Lindström, 2016). Referring to trust in government and public service performance, Van de Walle and Bouckaert (2003) discuss the problem of causality and explain the conditions for direct relations between public service performance and trust, and vice versa. However, they focus on the relations between perceptions about the performance of specific public sector organisations and the general level of trust in government. Unlike these studies, we look specifically at the health-care sector and analyse the complex relations between public trust in that sector, citizens' satisfaction with the services that it provides and citizens' beliefs about the social responsibility of government.

In our exploration, reciprocal relations between the variables lead to two additional hypotheses:

H3: Trust in health-care services is positively related to perceptions about the government's social responsibility.

H4: Citizens' satisfaction with health-care services mediates the impact of trust in health-care services on perceptions about the government's social responsibility.

Public trust in government or in specific public organisations may have an impact on society and on effective governance in various ways. Public trust can empower public officials, leading to greater effectiveness and improved management (Warren, 1999; Boateng and Cox, 2016; Favero et al, 2016). It can also motivate coordination between the various players in the public sector and reduce the transaction costs that have become prohibitive in many economic and administrative systems (North, 1990; Rothstein and Stolle, 2008; Robbins, 2012). By contributing to the performance of social initiatives and the public sector, public trust in the government may have a direct effect on citizens' satisfaction with the provision of public services (Van de Walle and Bouckaert, 2003). Furthermore, research on public attitudes towards the welfare state show that people associate variables such as management quality, public sector performance and trust with their attitudes towards the government's social responsibility and the scope of the welfare state (Svallfors, 2013; Mizrahi et al, 2014). Accordingly, Hypothesis 3 refers to the direct relations between trust and the government's social responsibility. However, as explained earlier, people often interpret situations based on their personal experience, meaning that, in our case, they determine the level of trust they have in the health-care system through their evaluation of its actual performance. Thus, given their level of trust in that sector, they consider their satisfaction with the services they receive, which then directly affects their perceptions about the government's social responsibility. In that sense, satisfaction mediates between trust and perceptions about the government's social responsibility, as posited in Hypothesis 4. Note that Hypotheses 2 and 4 are similar because satisfaction with services is a mediating variable in both of them, though the direction of the relationship differs.

To sum up so far, Figure 1a portrays the relations among three variables: trust in health-care services (TRUST) as the dependent variable; satisfaction with health-care services (SAT); and citizens' perceptions about the government's social responsibility (GSR). These variables correspond to Hypotheses 1 and 2. We also added control variables such as income and education. Figure 1b illustrates Hypotheses 3 and 4 regarding reciprocity, meaning that the dependent variable is perceptions about the government's social responsibility. In both directions, we present satisfaction with health-care services as a mediating variable (Hypotheses 2 and 4).

Method and analysis

Setting, context and sample

The study is based on data aggregated in the Israeli setting. The Israeli health-care system and health policy is composed of four health-care organisations financed and regulated by the government through compulsory national health insurance and other government sources (Cohen, 2018). In recent decades, the system has been relatively centralised. Private market alternatives are informal and often illegal. While client satisfaction is measured by internal surveys conducted by the health-care organisations, as well as by academic research (Gross et al, 2007), there are relatively few studies of trust in the Israeli health-care system. Furthermore, they do not explore the wide range of aspects of trust in the system, nor do they map the variables influencing the level of trust (Chinitz et al, 2001). A longitudinal study of public sector performance in Israel shows that Israeli citizens do not have a high level of trust in health-care providers

(NAPPA-IL Project, 2000–19). In addition, Israeli citizens do not feel that they are part of their decision-making processes. However, the researchers have established that trust in health care is positively related to performance and satisfaction much more than to participation in decision-making processes. Participation is positively related to performance. Thus, we can conclude that the past and present experience of the Israeli population with health-care organisations and services, upon which evaluations about performance and satisfaction are based, may influence their trust in the health-care system, and that this effect is stronger than the impact of structural variables such as participation, accessibility, equality and autonomy.

In this article, we focus on the attitudes of Israeli citizens about the government's social responsibility. Based on the NAPPA-IL (National Assessment Project of Public Administration – Israel) project data, we maintain that public opinion in Israel is generally supportive of the welfare state including values of fairness and equality (Mizrahi et al, 2014). There are also several studies that further explore the factors that influence such attitudes, notably, socio-demographic variables and structural factors such as ideology, class structure and political-institutional components (Shalev, 2007). However, these studies do not consider trust as a possible explanation of attitudes towards the welfare state, as suggested in our third and fourth hypotheses. Furthermore, as in the general literature, studies about Israeli society rarely refer to the possible effect of attitudes towards the welfare state on trust. Hence, we attempt to deal with these omissions.

Our sample ($N = 625$ citizens) is based on randomly selected citizens who reported their perceptions about and attitudes towards the health-care system using a closed-ended questionnaire, which is a procedure that has been developed and applied to similar populations in Israel since 2001 (Vigoda-Gadot and Mizrahi, 2014). Data were collected between May and July 2015, and the response rate was 65 per cent. Of the total sample, 49 per cent were men, 50 per cent were married, the average age was 35.16 years (sd = 12.7) and the average years of education was 13.1 (sd = 2.03). With regard to socio-economic characteristics, 84 per cent were Jews and a breakdown by income showed that 53 per cent had a monthly income lower than the average (around US$2,500), 22 per cent had an average income and 25 per cent reported an income higher than average. Of the respondents, 28 per cent reported little use of the public health-care system in the past 12 months (none to once), whereas 30 per cent and 41 per cent reported medium (three times) and high levels of use (four to five times) of those services, respectively.

Measures

We measured the variables with groups of questions that were verified and tested in previous studies on trust in the public sector (Sacks and Larizza, 2012; Vigoda-Gadot and Mizrahi, 2014; Grimmelikhuijsen and Knies, 2017) and on attitudes towards the welfare state (Svallfors, 2013; Mizrahi et al, 2014). The questions were verified for consistency using the Cronbach's α test. The participants indicated their responses on a scale ranging from 1 to 5.

Trust in the public health system (TRUST)

This variable was measured by seven items indicating the extent to which respondents trust: (1) their service provider's physicians; (2) their service provider's nurses; (3) their

service provider's managers; (4) their service provider's central management; (5) their service provider in general; (6) the Office of Health; and (7) the health-care system in general. The consistency of this variable was $\alpha = .82$.

Satisfaction with health-care services (SAT)

This variable was measured by five items indicating whether the respondents were satisfied with: (1) the quality of service of their health-care service provider; (2) the quality of the management in their health-care service provider; (3) the quality of the medical service provided by their health-care provider; (4) the quality of the infrastructure provided by their health-care provider; and (5) their service provider in general. The consistency of this variable was $\alpha = .87$.

Government's social responsibility (GSR)

Given that, in our setting, this factor also includes attitudes about the scope of the welfare state, we measured not only the extent to which people believe that the government should intervene in society, but also in what way and to achieve which purposes. Accordingly, this variable was measured by three items indicating to what extent the respondents thought that: (1) 'It is the state's responsibility to provide health-care services, and it should not leave it to the private sector to provide them'; (2) 'It is the state's responsibility to narrow the gaps in health-care services among citizens'; and (3) 'When the state provides health-care services to citizens, it should emphasise social considerations such as equality and fairness more than economic considerations of efficiency'. The consistency of this variable was $\alpha = .79$.

Socio-economic level

We assessed this factor based on information about the respondents' income (net salary per month), gender, age and years of education.

Data analysis

Structural equation modelling (SEM) using SPSS-AMOS was applied to test the models. We conducted a confirmatory factor analysis to determine the quality of the variables, as well as the quality and adaptivity of the full models. The analysis also considered the potential influence of income and education. These factors are the most relevant individual characteristics for the research setting, and help address potential common source bias, which has become an issue of lively debate among public administration scholars in recent years (Meier and O'Toole, 2013; Favero and Bullock, 2015). Common source bias is a systematic error variance that is a function of using the same method or source (Richardson et al, 2009). Meier and O'Toole (2013) argue that surveys of citizens' perceptions about government performance often contain valuable information that can be gathered in no other way. Segmentation according to individual characteristics can resolve most of the problems in such surveys (Gormley and Matsa, 2014).

Several limitations of our study should also be mentioned. First, the current study examined only the Israeli health-care case. Hence, although we may generalise from the Israeli experience to other cases, one should do so with caution and remember that cross-national differences in culture, institutional structures and political order still exist that might result in different findings when similar models are tested in

other countries. Therefore, additional studies should be conducted to control such variables and validate that our findings can be generalised.

Second, the study focuses on the health-care sector and may have implications for health policy. However, health policy should be tested with regard to other factors beyond perceptions about the government's social responsibility. Thus, studies should look at other variables that better reflect the meaning of the health policy and do so using objective information such as economic and hard data, behaviours and routines in the health sector, and decision-making and project outcomes that complement citizens' perceptions.

Third, our finding of complex relations may be interpreted as an empirical weakness of the study's design, which is largely cross-sectional. The use of the SEM technique helps overcome this limitation. Nevertheless, future studies are needed that overcome the single-source and single-method bias.

Findings

Table 1 presents the descriptive statistics, zero-order correlations and Cronbach's α for the research variables. The mean values of the research variables are relatively high. TRUST scores 3.06 (SD = .66) on a scale of 1–5, satisfaction with health-care services scores 3.51 (SD = .77) and the government's social responsibility scores 3.97 (SD = .86). The respondents strongly believe that the government has a social responsibility to its citizens, including caring about fairness and equity. They are also relatively satisfied with the performance of the health-care system. However, they have more moderate assessments about their trust in the system. These indications are consistent with the trends that we reviewed earlier, both regarding the strong inclination towards the government's social responsibility and the medium–high level of trust in the health-care system in Israel.

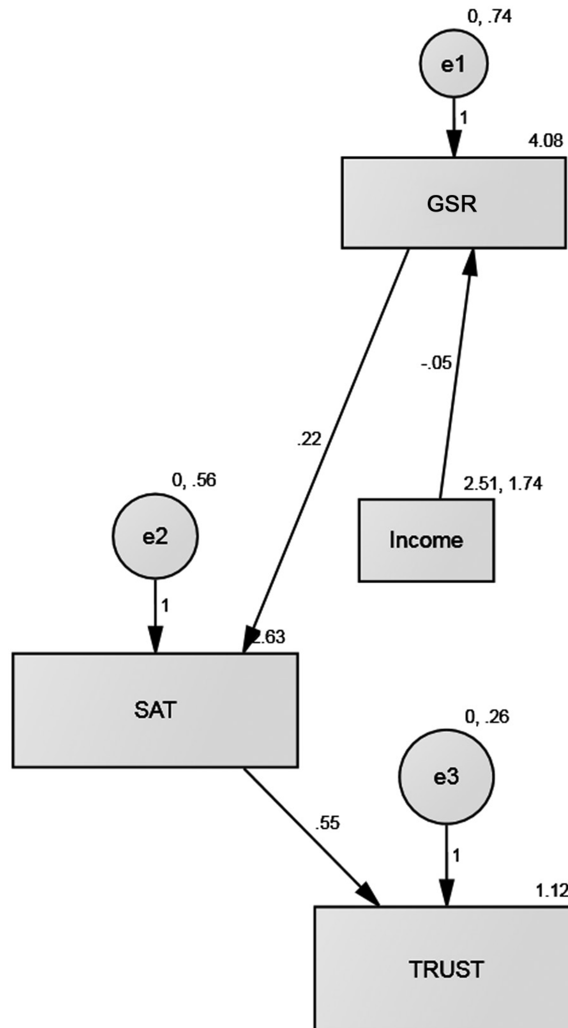
Table 1 : Multiple correlation matrix and descriptive statistics for the research variables

	Mean (SD)	1	2	3	4	5	6
1. Citizens' satisfaction (SAT)	3.51 (.77) *N* = 624	(.87)					
2. Government's social responsibility (GSR)	3.97 (.86) *N* = 623	.25***	(.79)				
3. Trust in health care (TRUST)	3.06 (.66) *N* = 624	.64***	.14***	(.82)			
4. Income	2.5 (1.32) *N* = 607	–.08*	–.07	–.05			
5. Gender (1 = women)	1.49 (.50) *N* = 606	.08*	.10*	.01	–.14**		
6. Age	35.16 (12.7) *N* = 611	–.09*	.09*	–.09*	.32***	.05	
7. Education	13.10 (2.03) *N* = 490	.06	.19***	–.01	.30***	.02	.22***

Notes: Cronbach's α in parentheses. * $p < .05$; ** $p < .01$; *** $p < .001$.

As Table 1 illustrates, most of the intercorrelations hold in the expected directions. None of the intercorrelations exceeds the maximum level of .70, which is a good indication of the absence of multicollinearity among the variables. Specifically, the correlation between trust in health-care services and satisfaction with them is high (r = .64, $p < .001$), while the correlation between satisfaction with health-care services and the government's social responsibility is lower (r = .25, $p < .001$) but still significant. Nevertheless, this correlation is the weakest among the pairs of variables (r = .14, $p < .001$). Thus, our findings indicate that there are strong direct relationships between trust in health-care services and satisfaction with them, and between satisfaction with health-care services and perceptions about the government's social responsibility, meaning that satisfaction with health-care services potentially mediates the relationship between perceptions about the government's social responsibility and trust in health-care services.

Figure 2: Research findings



Note: Standardised coefficients in an SEM model using SPSS-AMOS.

To examine the research hypotheses further and to encapsulate the empirical relationships in our hypotheses within a single framework, we utilised AMOS to test two competing SEM models (see Figures 2 and 3). Figure 2 illustrates the empirical findings and the relations between the variables. The empirical model supports our first two hypotheses. The fit of the path model is good. The model has a $\chi 2$ of 3.29 with three degrees of freedom (p = .35), CMIN/DF = 1.1, NFI is .99 and RMSEA is .01 (90 per cent confidence limits [CLs] .000, .07], CFI = 1.000, and TLI = .99. In other words, the model is not significantly different from the data we collected from the respondents and reflects the empirical data strictly and properly.

The empirical model portrays a relatively simple picture in which satisfaction with health-care services is related to trust in them ($\beta = .55, p < .001$), and satisfaction with health-care services mediates the relationship between citizens' perceptions about the government's social responsibility ($\beta = .22, p < .001$) and trust in health-care services. These findings support H1 and H2, respectively. There are no direct relations between people's perceptions and their trust. The model also shows that income is related to citizens' perceptions about the government's social responsibility; however, these relations are not significant. The other control variables do not contribute to the model.

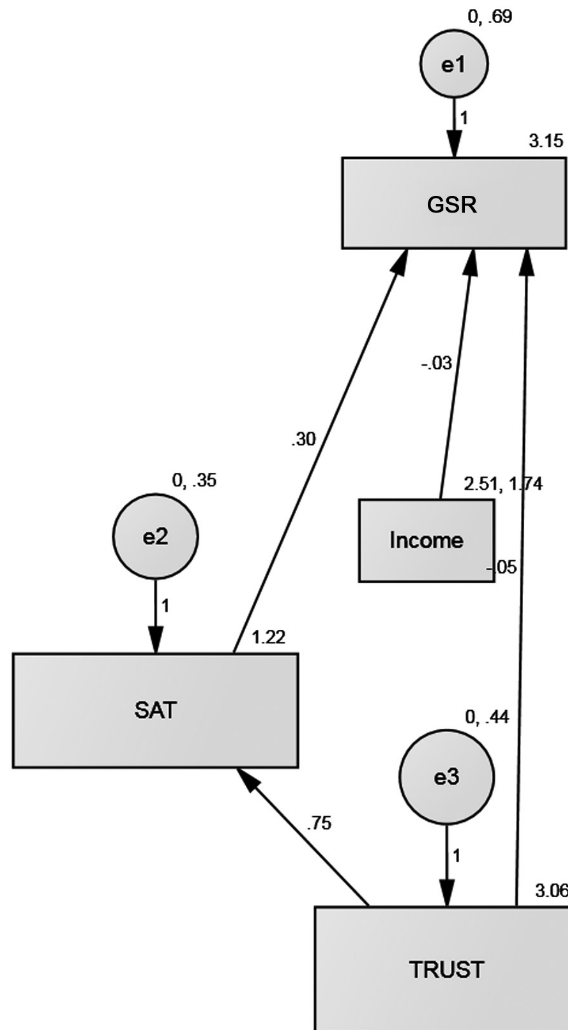
Figure 3 presents the analysis of the alternative model as posited in our third and fourth hypotheses. The model supports only Hypothesis 4. The fit of the path model is good. The model has a $\chi 2$ of 4.2 with two degrees of freedom (p = .12), CMIN/DF = 2 .1, NFI is .99 and RMSEA is .04 (90 per cent CLs .000, .09], CFI = .99, and TLI = .97. In other words, the model is not significantly different from the data we collected from the respondents and reflects the empirical data strictly and properly. Satisfaction with health-care services is related to citizens' perceptions about the government's social responsibility ($\beta = .3, p < .001$), and satisfaction with health-care services mediates the relationship between trust in health-care services ($\beta = .75, p < .001$) and perceptions about the government's social responsibility. The direct relationship between trust in health-care services and perceptions about the government's social responsibility is not significant, meaning that H4 is supported but H3 is not. Note that we also tested the possibility of an interaction between the variables as part of a moderation analysis for the two models but found no significant relations.

Discussion and conclusion

Public trust in government may be an elusive concept that has various sources. While most studies focus on the ways in which citizens' evaluations of various extrinsic aspects of reality may be related to trust in government, this article highlights citizens' attitudes about the government's social responsibility as a main intrinsic explanation of it. Existing explanations tend to focus on citizens' evaluations of the government's performance as a main antecedent of their trust in it (Van Ryzin, 2011; Bouckaert, 2012; Vigoda-Gadot and Mizrahi, 2014; Mcloughlin, 2015; Khan, 2016). We therefore analyse the interplay between citizens' attitudes about the government's social responsibility, citizens' satisfaction with the performance of government and trust in health care. We also test whether the direction of the relationships might be reversed, meaning that trust is the independent, rather than the dependent, variable.

Our findings support the hypotheses quite strongly. We found that citizens' trust in public health care and their perceptions regarding the government's social

Figure 3: Test of reverse causality



Note: Standardised coefficients in an SEM model using SPSS-AMOS.

responsibility relate to each other only indirectly through the mediation of practical considerations, meaning satisfaction with health-care services. Such satisfaction plays a leading role in explaining trust in health-care services in both direct and indirect ways. While the direct relationship between satisfaction and trust has been established in numerous studies, the role of satisfaction as a mediator between attitudes about the state's responsibility and trust has rarely been studied. In practice, this mediation means that people evaluate the government's social responsibility through the prism of their actual experience with the performance of the health-care sector, which then directly influences their trust in the system. The same applies to the reverse direction, where satisfaction mediates between trust as an independent variable and the government's social responsibility as a dependent variable. These findings indicate that citizens' satisfaction with services has more weight in explaining trust than do perceptions about the government's social responsibility and the welfare state. Prior

intrinsic beliefs are important but people consider them only through the prism of actual government performance as they see it.

Our setting and findings reveal a major methodological problem in the research on public trust as we challenge the common approach that analyses trust as a dependent variable without considering the possibility of a reverse relationship (Van de Walle and Bouckaert, 2003). Our findings allow us to draw conclusions only about relational associations between variables, not causal ones.

In sum, we establish that in analysing public trust, we should also consider the involvement of intrinsic parameters such as citizens' attitudes about the government's social responsibility and the scope of the welfare state. Furthermore, the article shows that citizens' satisfaction with services has more weight in explaining trust than do perceptions about the government's social responsibility and the welfare state. This rationale – which connects citizens' expectations about what the government should do to citizens' satisfaction with and trust in public organisations – contributes an important layer to the theory of trust.

This conclusion may have implications for the study of democracy because even in a society that strongly favours a generous welfare state and government intervention, people form their perceptions about public organisations primarily based on their satisfaction with the services that these organisations provide. Nevertheless, we posit that an output variable such as satisfaction influences trust because it represents the responsiveness of the system to citizens' expectations. Thus, it is not only the outputs that matter, but also the responsiveness of the system.

The existence of complex relations between perceptions about the government's social responsibility, trust and satisfaction has significant theoretical implications for trust research, as well as for health-care systems and health policy. Public management research views trust in public organisations as an important goal because it stabilises cooperative relations between citizens and public officials, reduces the costs of transactions, and contributes to economic growth and social welfare (North, 1990; Rothstein and Stolle, 2008; Bouckaert, 2012; Robbins, 2012). Scholars have therefore devoted many efforts to identifying the antecedents of trust in public organisations. However, if the relations between these supposed antecedents and trust work in both directions, then this would mean that we know very little about the ways in which citizens determine their trust in public organisations and the government. Indeed, critics of existing explanations of trust often refer to the problem of reciprocity as a main theoretical challenge. They argue that since it is very difficult to distinguish between cause and effect in trust relations, the research in this area can tell us very little about the origins of trust (Van de Walle and Bouckaert, 2003; Hardin, 2006; Keele, 2007; Nannestad, 2008; Sønderskov and Dinesen, 2016). Our study contributes to this debate by documenting the complex relations involved in trust research.

Indeed, the complexity that we identified in this article may have several implications for future research in the field of trust and health policy. First, we should reconsider the way in which we measure trust in surveys, especially as related to health-care services. Given that there is often a strong correlation between satisfaction and trust, which works in both directions, it is most likely that citizens do not really distinguish between the two factors. In order to avoid such potential biases, we should phrase our survey statements in a manner that refers to the concept of trust indirectly. For example, instead of asking respondents to rate their trust in government health-care services, health-care organisations, public health officials or politicians who affect

health policies, it might be better to ask them to rate the extent to which they believe that these players will defend and advance the public's interests in health care in the long term.

Second, there might be independent variables such as gender and age that explain institutional trust in health-care organisations but are not really influenced by it. However, besides determining certain demographic variables that meet this requirement, identifying additional variables might be a very difficult task. Since perceptions of trust are fundamental to human beings and thus stand at the core of most social interactions and cultures, we may expect that they will affect these interactions (Hardin, 2006). It is therefore very difficult to identify such independent variables.

Third, we may want to recognise that reciprocity is fundamental to trust relations and think in terms of the co-evolution of trust and other variables rather than one-way relations. Indeed, the complex relations that we documented may express the complexity of the reality in which health policy evolves. According to this approach, public perceptions of trust, of government performance and of other variables co-evolve through complex processes in which each variable influences the other. This may seem a chaotic picture of reality but, in fact, it improves our understanding because theory and reality converge. In practice, this approach means that research in the field of trust in health-care systems should devote significant effort to studying the mutual dependence of trust and variables such as the perceived performance of the health system, managerial quality in hospitals, distributive and procedural justice, and beliefs about the social responsibility of government to provide health care, as well as the ways in which they co-evolve and change simultaneously. Furthermore, if we do indeed look at the co-evolution of citizens' perceptions about various factors, we will have to explain the various ways in which different health-care players such as politicians, public officials and interest groups influence these perceptions and the channels through which they do it (such as mass media). Research in that direction may refer to models of governance and networks, as well as public choice theory. All in all, despite its limitations, we believe that our study contributes to the research on public trust and provides insights for health-care policymakers and those formulating and dealing with health policies.

Conflict of interest

The authors declare that there is no conflict of interest.

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