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Article

Structural model of deliberative citizenship: addition and validation of participation indicators

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This study aims to improve the structural model of deliberative citizenship (Costa & Pinto, 2021, 2023), which is based on studies related to the application of criteria (Tenório, 2012) to the theoretical field of social management. Data were analyzed using structural equation modeling (Hair, Hult, Ringle, & Sarstedt, 2017; Hair et al., 2021). A sample of 213 people from various regions of Brazil responded to an electronic questionnaire after being invited via social media, with emphasis on LinkedIn. In addition to confirming the statistical quality of the structural model of deliberative citizenship (Costa & Pinto, 2021, 2023), two indicators proposed for the "participation" construct (Costa & Pinto, 2021, 2023) were validated. The "deliberative process" construct is still in an exploratory phase, with a test proposition with an additional indicator related to the "cross-cutting spaces" criterion. The validation of additional indicators to the "participation" construct raised its quality above the exploratory zone, as its outer loadings were above 0.7. Therefore, the improvement carried out expands the theoretical and statistical understanding of the model, which can be applied to the various collegiate bodies in public management.
Keywords: transparency; participation; social management; deliberative citizenship.

Modelo estrutural de cidadania deliberativa: adição e validação de indicadores de participação

O objetivo deste estudo é aprimorar o modelo estrutural de cidadania deliberativa (Costa & Pinto, 2021, 2023), que tem por base os estudos relativos à aplicação de critérios (Tenório, 2012) ao campo teórico da gestão social. Os dados foram analisados mediante modelagem de equações estruturais (Hair, Hult, Ringle, & Sarstedt, 2017; Hair et al., 2021). Responderam ao questionário eletrônico 213 pessoas de variados territórios brasileiros, convidadas em redes sociais, com destaque para o LinkedIn. Além de ratificar a qualidade estatística do modelo estrutural de cidadania deliberativa (Costa & Pinto, 2021, 2023), validaram-se dois indicadores propostos ao construto "participação" (Costa & Pinto, 2021, 2023). O construto "processo deliberativo" segue em fase exploratória, tendo uma proposição de teste com um indicador adicional relativo ao critério "espaços de transversalidade". A validação dos indicadores adicionais ao construto "participação" elevou sua qualidade acima da zona exploratória, pois suas cargas externas ficaram acima de 0,7. Dessa forma, o aprimoramento realizado amplia a compreensão teórica e estatística do modelo, apto a ser aplicado aos diversos órgãos colegiados na gestão pública.
Palavras-chave: transparência; participação; gestão social; cidadania deliberativa.

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Modelo estructural de ciudadanía deliberativa: adición y validación de indicadores de participación

El objetivo de este estudio es mejorar el modelo estructural de ciudadanía deliberativa (Costa & Pinto, 2021, 2023), que se basa en estudios relacionados con la aplicación de criterios (Tenório, 2012) al campo teórico de la gestión social. Los datos se analizaron mediante modelos de ecuaciones estructurales (Hair, Hult, Ringle, & Sarstedt, 2017; Hair et al., 20211). 213 personas de varios territorios brasileños respondieron el cuestionario electrónico, invitadas a través de las redes sociales, con énfasis en LinkedIn. Además de confirmar la calidad estadística del modelo estructural de ciudadanía deliberativa (Costa & Pinto, 2021, 2023), se validaron dos indicadores propuestos para el constructo participación (Costa & Pinto, 2021, 2023). El constructo proceso deliberativo aún se encuentra en fase exploratoria, con una propuesta de prueba con un indicador adicional relacionado con el criterio de espacios transversales. La validación de indicadores adicionales al constructo participación elevó su calidad por encima de la zona exploratoria, ya que sus cargas externas fueron superiores a 0,7. De esta forma, la mejora realizada amplía la comprensión teórica y estadística del modelo, pudiendo ser aplicado a los distintos órganos colegiados de la gestión pública.
Palabras clave: transparencia; participación; gestión social; ciudadanía deliberativa.

1. INTRODUCTION

In the republican view, the structure of society is formed by the "political will of private subjects" (Habermas, 1997, p. 20, our translation). This relationship illustrates the concept of democracy, in which decentralized administration is valued through collective appropriation of state bureaucratic power. In this context, deliberative democracy refers to "a process of institutionalization of a set of practices and rules, both formal and informal" (Tenório, 2016, p. 29, our translation), while the focus of deliberative citizenship is the legitimation of political decisions (Tenório, 2007).

Habermas (1997) values the collective construction of the common good and the necessary political-administrative apparatus. In general, the author discusses issues related to political deliberation, such as pluralism of ideas, communicative relationships, argumentation, and consensus building. According to the author, social problems experienced in the private sphere are taken to the public sphere through civil society movements and entities. Thus, both public sphere and civil society correspond to useful concepts for understanding deliberative citizenship (Tenório & Kronemberger, 2016).

In accordance with the current Federal Constitution (Constituição da República Federativa do Brasil de 1988), the ultimate goal of deliberative citizenship is the common good. This aim has been studied in the theoretical field of social management, which is "based on understanding, argumentation, and not on negotiation [or convincing] in the utilitarian sense of the term" (Cançado, Tenório, & Pereira, 2011, p. 696, our translation).

The use of the perspective of deliberative citizenship in the theoretical field of social management in Brazil began with Tenório (1998), who influenced a tradition of qualitative studies applied to "collegiate management spaces, predominantly in territories and public policy councils" (Salgado, Santos, Resende, & Souza, 2019, p. 819, our translation). In this way, deliberative citizenship criteria were consolidated for the analysis of decision-making processes in different territories contributing to local development (Tenório, 2012).

The quantification of these criteria began in a doctoral thesis at the Brazilian School of Public and Business Administration of the Getulio Vargas Foundation (FGV EBAPE) (Costa, 2018). Through exploratory factor analysis, three factors were extracted from these criteria: transparency, participation, and deliberative process. Thus, the precursor version of the structural model of deliberative citizenship

was formed – transparency and participation positively affect the deliberative process (Costa, 2018). Moreover, Costa and Pinto (2021, 2023) added the common good construct and validated the hypothesis that transparency and participation, mediated by the deliberative process, positively affect the common good. These authors identified opportunities for improvement in two constructs and presented them as suggestions for future research. They proposed the addition of two indicators to the participation construct and text review in one indicator of the deliberative process construct.

The aim of this research is precisely to verify the relevance of these propositions. The proposed additional tests required a re-reading of the respective analysis criteria for decision-making processes from the perspective of deliberative citizenship (Tenório, 2012) for the interpretation of their meanings in the constructs. The estimation was performed using structural equation modeling with the SmartPLS 4 software (Ringle, Wende, & Becker, 2022) with the same settings as performed previously.

2. DELIBERATIVE CITIZENSHIP CRITERIA IN THE CONTEXT OF SOCIAL MANAGEMENT

Among the ways of understanding the concept of social management, its goals, and its opposition to strategic management stand out, social management is based on the idea that participation in decision-making processes should foster dialogue for the common good (Tenório & Kronemberger, 2016).

The theoretical field of social management is useful for understanding the concept of deliberative citizenship, from which it appears that "the legitimacy of political decisions must originate in discussion processes, guided by the principles of inclusion, pluralism, participatory equality, autonomy, and the common good" (Tenório, 2007, p. 54, our translation). This definition summarizes the categories that group the criteria for analyzing decision-making processes (Box 1).

A preliminary version of the deliberative citizenship criteria was presented by Tenório et al. (2008). The consolidated version is available in the chapter "Methodological scope" (Villela, 2012, our translation) of the book *Citizenship and local development: analysis criteria*, organized by Tenório (2012). A relevant part of these criteria constitutes the indicators of the structural model of deliberative citizenship.

BOX 1 DELIBERATIVE CITIZENSHIP: ANALYSIS CRITERIA

Categories	Criteria
Discussion process: discussion of problems through negotiated authority in the public sphere. It presupposes equal rights and is understood as an intersubjective and communicative space that enables the understanding of the social actors involved.	**Dissemination channels:** existence and use of appropriate channels for accessing information to mobilize potential participants. **Information quality:** diversity, clarity, and the usefulness of the information provided to the actors involved. **Cross-cutting spaces:** spaces that cross sectors to integrate different points of view. **Plurality of the promoting group:** leadership sharing to bring together different potential actors. **Existing agencies:** use of existing agencies and structures, avoiding duplication of them. **Monitoring agency:** the existence of an agency that monitors the entire process, from its elaboration to implementation, warranting coherence and fidelity to deliberation in a participatory manner. **Relationship with other participatory processes:** interaction with other existing participatory systems in the region.

Continue

Categories	Criteria
Inclusion: incorporation of individual and collective actors previously excluded from public policy decision-making spaces.	**Opening up decision-making spaces:** processes, mechanisms, and institutions that favor the articulation of the interests of citizens or groups, giving everyone an equal chance to participate in decision-making. **Social, political, and technical acceptance:** recognition by the actors of the need to perform a participatory methodology in the social, political, and technical spheres. **Citizen appreciation:** appreciation by citizens of the relevance of their participation.
Pluralism: multiplicity of actors (government, market, and civil society) that based on their different points of view, are involved in the decision-making process in public policies.	**Participation of different actors:** performance of associations, movements, and organizations, as well as non-organized citizens involved in the deliberative process. **Profile of the actors:** characteristics of the actors in relation to their experiences in democratic participation processes.
Participatory equality: effective equality of action in decision-making processes in public policies.	**Form of choosing representatives:** methods used to choose representatives. **Speeches of representatives:** valuation of participatory processes in the speeches exercised by representatives. **Participatory evaluation:** intervention of participants in monitoring and evaluating public policies.
Autonomy: indistinct appropriation of decision-making power by different actors in public policies.	**Origin of propositions:** identification of the initiative of propositions and their congruence with the interest of beneficiaries of the public policies adopted. **Responsibility of the actors:** intensity with which local administrations within a given territory can intervene in planned problems. **Leadership profile:** characteristics of leadership in relation to the decentralizing conduction of the deliberation and execution process. **Possibility of exercising their willingness:** institutions, norms, and procedures that allow the exercise of individual or collective political will.
Common good: social welfare achieved through republican practice.	**Achieved objectives:** the relationship between planned and realized goals. **Citizen approval of the results:** actors' positive assessment of the achieved results.

Note: Structure presented preliminarily by Tenório et al. (2008) and consolidated in the chapter "Methodological scope", written by Villela (2012).
Source: Adapted from Tenório (2012, pp. 39-40, our translation).

The Habermasian concept of deliberative citizenship was integrated into the theoretical field of social management by Tenório (1998), with a focus on *participation*, which aims at "self-realization [...] under the logic [...] of social democracy through political and decision-making equality" (Salgado et al., 2019, p. 818, our translation). Thus, the term "social management" in this line of research is not limited to the actions of governments and public organs for the benefit of society. More than that, it involves social emancipation, through established consensus based on Habermasian communicative rationality (Salgado et al., 2019; Tenório, 2008).

Deliberative citizenship criteria represent the magnitude of participation in terms of relevance, by the person or public management, and amplitude (Costa, 2018; Costa & Pinto, 2021). In this construct, participation, the "relationship with other participatory processes", "citizen appreciation", and "participatory evaluation" were initially considered (Costa, 2018). Later, Costa and Pinto (2021)

proposed the inclusion of the "participation of different actors" and the "profile of the actors", which are criteria related to pluralism.

Transparency, in turn, is represented by the first two analysis criteria: dissemination channels and information quality. The literature on social management and deliberative citizenship values transparency as essential to communicative action, considering that knowledge must be shared in the discussion processes.

> Thus, in a social relationship that intends to be participatory, knowledge must be convergent. The knowledge of those who studied should be used to support the discussions, but not as a first guide in the decision. In a collective relationship, power is diluted among the participants since knowledge and information are shared, with no 'owners of truth' (Tenório & Rozenberg, 1997, p. 163, our translation).

The dissemination channels and information quality can be interpreted in the conceptual terms of transparency developed by Michener and Bersch (2013). In short, transparency is visibility (available access) and inference ability, which can be achieved by simplifying and disaggregating information, in addition to an independent audit that can attest to the veracity of information (Michener & Bersch, 2013).

While the purpose of social management is the common good of society (Tenório, 2006) in clear distinction from strategic management (Cançado et al., 2011; Costa, 2018; Tenório & Kronemberger, 2016), deliberative citizenship is related to criteria that legitimize collective efforts in this direction (Tenório, 2007). Thus, this research is in line with the idea of co-production of the public good (R. B. Denhardt & J. V. Denhardt, 2000), which "starts from social participation, but necessarily goes through the deliberative process since the effect between participation and the common good is totally mediated" (Costa & Pinto, 2021, p. 13, our translation).

Habermas' communicative rationality presupposes appreciating the world of life in political discussions. In this way, participation would be influenced by culture (more social aspect) and personality (more individual aspect). It is about the search for autonomy, but also for solidarity and the establishment of consensus (Salgado et al., 2019). In a literature review, Salgado et al. (2019) identified that

> [...] the original reading by Tenório (1998) was maintained over 20 years and thus the concept of deliberative citizenship is aligned with that of social management and contributed to the theoretical debate and empirical studies in the field of civil society organizations, specifically in collegiate organs (Salgado et al., 2019, p. 829, our translation).

Although research involving social management and deliberative citizenship began in Brazil in 1998, Salgado et al. (2019) did not identify a quantitative methodology, which has been a newer construction (Costa, 2018; Costa & Pinto, 2021, 2023).

Costa and Pinto presented the Structural Model of Deliberative Citizenship at the EnANPAD 2021 (XLV Nacional Meeting of Postgraduate Studies and Research in Administration), based on the construction performed in Costa's doctoral thesis (2018). Research by Costa and Pinto (2021) identified opportunities for improving the referred structural model.

The developed method consists of four constructs: three identified in the thesis (Costa, 2018) and one added later (Costa & Pinto, 2021). It was demonstrated that *transparency* and *participation*, mediated by the *deliberative process*, positively affect the *common good*. As a suggestion for future research, Costa and Pinto (2021) identified the need to add two indicators for the participation construct and the possibility of improving the text of an indicator of the deliberative process construct.

Box 2 summarizes the criteria for deliberative citizenship in the structural models of previous research. It is observed that one criterion related to autonomy ("Possibility of exercising their willingness") has not yet had an indicator formulated. This criterion was not the object of this research. If elaborated, the alignment of the respective indicator which the participation construct can be tested.

BOX 2 DELIBERATIVE CITIZENSHIP CRITERIA (TENÓRIO, 2012) IN PREVIOUS RESEARCH

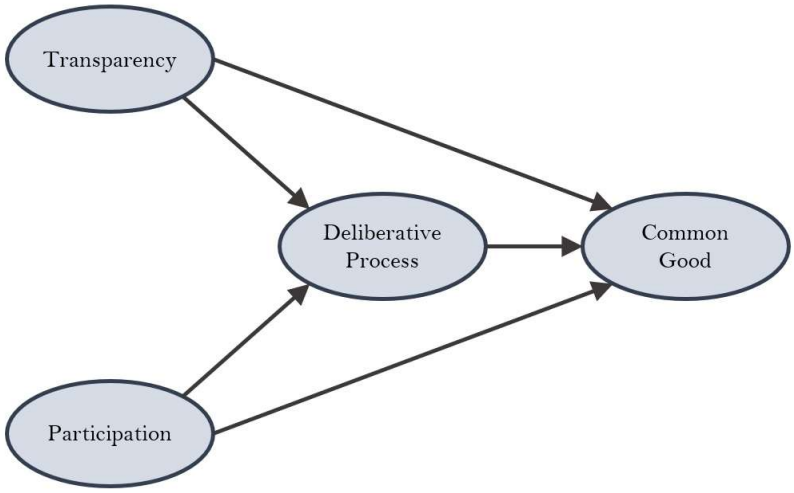
Analysis criteria	Costa (2018)	Costa and Pinto (2021, 2023)
Dissemination channels	Tested and validated	Tested and validated
Information quality	Tested and validated	Tested and validated
Cross-cutting spaces	Tested and validated	Tested and validated
Plurality of the promoting group	Tested and validated	Tested and validated
Existing agencies	Dismissed in exploratory factor analysis	Not tested
Monitoring agency	Dismissed in exploratory factor analysis	Not tested
Relationship with other participatory processes	Tested and validated	Tested and validated
Opening up decision-making spaces	Tested and validated	Tested and validated
Social, political, and technical acceptance	Dismissed in exploratory factor analysis	Not tested
Citizen appreciation	Tested and validated	Tested and validated
Participation of different actors	Dismissed in exploratory factor analysis	Not tested
Profile of the actors	Dismissed in exploratory factor analysis	Not tested
Form of choice of representatives	Tested and validated	Tested and validated
Speeches of representatives	Tested and validated	Tested and validated
Participatory evaluation	Tested and validated	Tested and validated
Origin of propositions	Tested and validated	Tested and validated
Responsibility of the actors	Dismissed in exploratory factor analysis	Not tested
Leadership profile	Tested and validated	Tested and validated
Possibility of exercising their willingness	**Unformulated indicator**	**Unformulated indicator**
Achieved objectives	**Unformulated indicator**	Tested and validated
Citizen approval of the results	**Unformulated indicator**	Tested and validated

Source: Adapted from Costa (2018) and Costa and Pinto (2021, 2023).

3. STRUCTURAL MODEL OF DELIBERATIVE CITIZENSHIP

Costa (2018) validated the proposition that transparency and participation positively affect the deliberative process, while Costa and Pinto (2021) expanded the model, based on the recommendations for future research suggested in the thesis (Costa, 2018). Thus, the current version was achieved (Figure 1), which includes the construct related to social welfare. In summary, transparency and participation, mediated by the deliberative process, positively affect the common good.

FIGURE 1 STRUCTURAL MODEL OF DELIBERATIVE CITIZENSHIP



Source: Costa and Pinto (2021, 2023, our translation), based on Tenório (2012) and Costa (2018).

The recommendation to expand the transparency construct (Costa, 2018) was met by testing the TR3, TR4, and TR5 indicators (Costa & Pinto, 2021), whose result is summarized in Box 3.

BOX 3 TRANSPARENCY INDICATOR TEST RESULTS

Ind.	Redaction	Situation	Analysis criterion
TR1	I have access to information pertinent to decision-making in an existing municipal council in the municipality where I live.	**Validated** (Costa)	Dissemination channels
TR2	The relevant information pertinent to the decisions of the existing municipal councils in the territory where I live is comprehensible.	**Confirmed** (Costa and Pinto)	
TR3	In the territory where I live, communication relative to the municipal councils is simplified.	**Validated** (Costa and Pinto)	Information quality
TR4	In the territory where I live, the city hall provides detailed information relative to the proposals discussed in the municipal councils.		
TR5	In the municipality where I live, information forwarded to popular councils is checked or verified by an independent audit.	**Not validated** (Costa and Pinto)	

Note: Ind. = Indicator.
Analysis criteria: Tenório (2007, 2012).
Source: Adapted from Costa (2018) and Costa and Pinto (2021, 2023).

Among the tested transparency indicators, one was not validated (TR5). This result may be due to the incipience of the theme "independent audit", which would cause low consistency in the responses and consequently a low level of significance of the respective results. On the other hand, the indicators proposed for the common good (Costa & Pinto, 2021), in response to Costa's proposal (2018), were fully validated, as shown in Box 4.

BOX 4 VALIDATED COMMON GOOD INDICATORS

Ind.	Redaction	Analysis criterion
CG1	The quality of public services provided in the territory where I live meets my expectations.	Citizen approval of the results
CG2	The actions resulting from the deliberations that occurred in the territory where I live are satisfactory.	
CG3	In the territory where I live, the public power has satisfactorily met the objectives proposed, agreed and established in the municipal councils.	Achieved objectives
CG4	In the territory where I live, the public power acts for the sake of the common good.	Synthesis*
CG5	In the territory where I live, social well-being is valued.	

Analysis criteria: Tenório (2007, 2012).
*Common good is the social welfare achieved through republican practice (Tenório, 2012).
Source: Adapted from Costa and Pinto (2021, 2023).

In addition to the analysis criteria, the indicators for the common good construct were based on the relationship between common good and social welfare (Costa & Pinto, 2021, 2023). The following boxes present the indicators of the other constructs – participation and deliberative process –, as validated (Costa, 2018) and confirmed (Costa & Pinto, 2021, 2023) in previous research.

There is an understanding that the participation construct is related to the relevance and amplitude of the social actor's involvement in the deliberative process (Costa, 2018; Costa & Pinto, 2021, 2023). This deduction is reinforced by the correlation between the analysis criteria of this construct (Costa, 2018).

BOX 5 VALIDATED AND CONFIRMED PARTICIPATION INDICATORS

Ind.	Redaction	Analysis criterion
PA1	I work in a participatory system in the territory where I live that is not a municipal council.	Relationship with other participatory processes
PA2	My participation in the decision-making process at the municipal ambit is relevant.	Citizen appreciation
PA3	I intervene in the follow-up and evaluation of the execution of proposals approved in a municipal council.	Participatory evaluation

Note: Ind. = Indicator.
Analysis criteria: Tenório (2007, 2012).
Source: Adapted from Costa (2018) and Costa and Pinto (2021, 2023).

The deliberative process construct should not be confused with participation. Instead of the social actor, the focus of the deliberative process is the public policy management council. This grouping of decision-making analysis criteria from the perspective of deliberative citizenship (Tenório, 2012) was made possible by exploratory factor analysis (Costa, 2018). In general, participation refers to the social actor, the deliberative process is due to the characteristics of the institutional environment and transparency is a result of the ability to infer relevant information (Tenório, 2007, 2012; Costa, 2018; Costa & Pinto, 2021, 2023).

BOX 6 VALIDATED AND CONFIRMED DELIBERATIVE PROCESS INDICATORS

Ind.	Redaction	Analysis Criterion
DP1	In addition to the municipal councils, there are other spaces for discussion on matters relevant to the local community.	Cross-cutting spaces
DP2	In the existing municipal councils in the territory where I live, there is room for potential new leaders.	Plurality of the promoter group
DP3	In popular councils, all individuals or groups organized in the territory have an equal chance of participating in decision-making.	Opening up decision-making spaces
DP4	In the territory where I live, the methods for choosing representatives to serve on municipal councils are participatory and democratic.	Form of choice of representatives
DP5	In the territory where I live, the speeches exercised by members of municipal councils value participatory processes.	Speeches of representatives
DP6	In general, the propositions discussed in the municipal councils are in accordance with the interests of society.	Origin of propositions
DP7	In the territory where I live, the process of deliberation and execution of proposals submitted to municipal councils is conducted in a decentralized manner.	Leadership profile

Note: Ind. = Indicator.
Analysis criteria: Tenório (2007, 2012).
Source: Adapted from Costa (2018) and Costa and Pinto (2021, 2023).

Although Costa and Pinto (2021, 2023) did not test new indicators for the participation and deliberative process constructs, they identified the need to increase their quality. To this end, they proposed testing two additional indicators for the participation construct (PA4 and PA5) and a change in the wording of the first indicator of the deliberative process construct (DP1). Box 7 shows the indicators created or redefined.

BOX 7 INDICATORS CREATED (PARTICIPATION) OR REDEFINED (DELIBERATIVE PROCESS)

Ind.	Redaction	Analysis Criterion
PA4	I participate in the construction of proposals for the municipality with people linked to different types of entities.	Participation of different actors
PA5	I have experience in different democratic participation processes.	Profile of the actors
DP1	In addition to the municipal councils, there are spaces to discuss matters relevant to the communities in the territory where I live.	Cross-cutting spaces

Note: Ind. = Indicator.
Analysis criteria: Tenório (2007, 2012).
Source: Adapted from Costa and Pinto (2021, 2023).

Indicator PA4 meets the criterion "participation of different actors" (Tenório, 2012), previously tested with the following wording: "Movements, organizations and also unorganized people can interfere in the deliberative process of the departmental council" (Costa, 2018, our translation). PA5 is also proposed, resulting from the redefinition of the respective indicator previously tested (Costa, 2018), corresponding to the criterion "profile of the actors" (Tenório, 2012). "Together, PA4 and PA5 refer to the multiplicity of actors involved in decision-making" (Costa & Pinto, 2021, p. 14, our translation).

As for the DP1 indicator, according to Costa and Pinto (2021, p. 14, our translation), "the term 'local' was removed, the plural of the term 'community' was used and the scope of analysis was delimited by means of the expression 'territory where I live'". These alterations were expected to have provided a significant improvement in the measurement of constructs and the structural model. All proposed indicators (Costa & Pinto, 2021, 2023) were validated, but the results related to the participation construct were more expressive.

4. METHODOLOGICAL PROCEDURES

The PA4 and PA5 indicators proposed for the structural model of deliberative citizenship (Costa & Pinto, 2021), as well as the new wording for PD1, were tested with the *Partial Least Squares Structural Equation Modeling* (PLS-SEM), with the help of the SmartPLS 4 application (Ringle et al., 2022). For Hair et al. (2017, 2021), this method privileges the explanatory capacity of the constructs that affect the common good. In measuring the constructs, criteria of convergent validity, internal consistency, and discriminant validity were adopted.

TABLE 1 REFERENCE CRITERIA FOR VALIDATION OF CONSTRUCTS

Convergent validity		Internal consistency		Discriminant validity	
Outer loadings	AVE	Cronbach's alpha (α)	Composite reliability	Cross loadings	HTMT
> 0.6	> 0.5	> 0.7	> 0.7	*	**

Note: HTMT = Heterotrait-monotrait ratio.
*Higher factor loadings in the respective constructs.
**Confidence interval does not include 1.
Source: Costa and Pinto (2021, 2023), based on Costa (2018), Hair et al. (2017, 2021) and Hulland (1999).

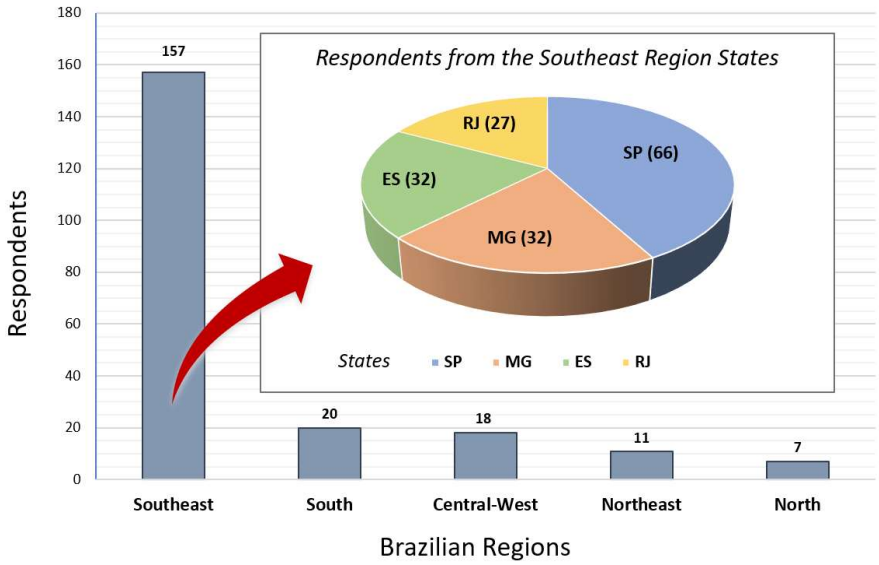
The minimum value of 0.6 for the outer loadings of constructs is still acceptable in this phase of model enhancement. However, a minimum value of 0.7 was expected. "The expectation, following the recommendations of Hulland (1999), is that the outer loadings below 0.7, which is the ideal minimum value, will increase according to the improvement of the scale" (Costa & Pinto, 2021, p. 10, our translation). While this coefficient is useful for measuring the effect of the construct on each indicator belonging to it, the *average variance extracted* (AVE) represents the percentage of the variance of the set of indicators on each construct (Costa, 2018; Hair et al., 2017, 2021).

Internal consistency, in general terms, means how much the indicators converge to the construct. That is, it measures how the construct indicators, associated, are assertive in measuring it. While *Cronbach's alpha* is a conservative measure, *composite reliability* (CR) is more liberal. Thus, the actual measure of reliability must be between both, expecting values between 0.7 and 0.95 (Costa, 2018; Hair et al., 2017, 2021).

Discriminant validity serves to distinguish each construct from the others. This test is important to avoid mistaken validation of direct and indirect effects. *Cross loadings* indicate whether the construct's indicators have a stronger relationship with a construct other than the one to which it belongs. Although the cross loading test is common, HTMT is more reliable. In it, values are expected not to be greater than 0.85, in general cases, and 0.9, in the case of conceptually similar constructs (Costa, 2018; Hair et al., 2017, 2021). In addition, it is recommended to check whether, at a significance level of 5%, the HTMT values between the constructs are less than 1, given that higher values mean that there is an overlapping of constructs, which compromises the quality of the model to represent reality.

Data were collected via an online questionnaire (Google Forms), with the application of a seven-point scale (Likert, 1932) for each indicator, in addition to questions referring to the respondents' profile. Invitations were sent to different profiles, considering academic backgrounds, to reduce possible selection bias. 213 people from different locations in Brazil participated in the survey, with an emphasis on the Southeast Region.

GRAPH 1 RESPONDENTS' TERRITORIAL ORIGIN

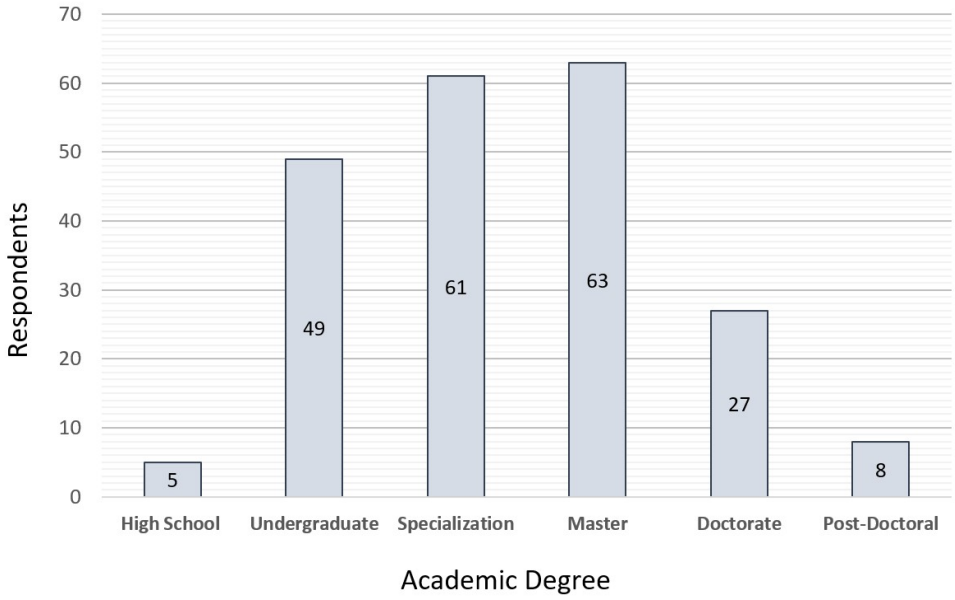


Note: Adapted layout (Costa & Pinto, 2021, 2023).
Source: Elaborated by the author.

Although 124 respondents do not have experience working in deliberative councils of social interest, approximately 45.16% of them have knowledge in an area at the municipal, state, or national level. Among the 89 who not only know but also have experience acting as a representative, the main occurrences of segments were "public sector" (39) and "popular representative" (34). Representatives of a segment of the private sector totaled 16 people.

Compared to the previous research (Costa & Pinto, 2021, 2023), the current one had lower participation of people with high school, undergraduate, or specialization academic training. On the other hand, it had greater participation of people with master's, doctorate, or post-doctoral degrees. Although there was a decrease in some academic degrees, the data are well distributed.

GRAPH 2 RESPONDENTS' ACADEMIC DEGREE



Source: Elaborated by the author.

The survey is gender balanced (112 masculines, 101 feminines), and had people from different ethnic origins: white or Caucasian (108); black or brown (76); mixed race or mestizo (19); oriental, Asian or yellow (3); indigenous or red (2). Five people preferred not to declare their ethnic origin. The invitation to people with academic training in different areas of knowledge was also valued. Thus, data collection was carried out along the lines of the research in which the structural model of deliberative citizenship was proposed (Costa & Pinto, 2021, 2023).

> This diversity in the profile of the respondents provides quality in measuring the constructs and the cause-effect relationships (path coefficients) foreseen in the structural model. These path coefficients were tested by bootstrapping (with a significance level of 5%) [...]. This technique is used in estimates related to validation criteria for constructs, as well as for the structural model (Costa & Pinto, 2021, p. 9, our translation).

In addition to testing the indicators, using the criteria in Table 1, improvements in path coefficients were analyzed based on the criteria shown in Box 8. For Q^2, according to the *construct cross-validated redundancy* criterion, measured by *blindfolding*, it is expected that the value is not negative, indicating the predictive relevance of the structural model (Hair et al., 2017). The *variance inflation factor* (VIF) must be less than 5 so that there is no collinearity between predictor constructs greater than 0.20 (Hair et al., 2017). The f^2 is used to measure the intensity of the effects relative to the path coefficients. For this purpose, Hair et al. (2017) resorted to Cohen (1988), who defines that the effect is only considered when f^2 is equal to or greater than 0.02 and that the values 0.15 and 0.35 mark medium and large effects, respectively (Costa, 2018, p. 109).

BOX 8 CRITERIA FOR THE ANALYSIS OF PATH COEFFICIENTS

Reference value for the coefficients	Effect level	
From 0.50	High	Significant
Greater than 0.40 I Less than 0.50		
Greater than 0.20 I Until 0.40	Moderate (typical)	
Between 0.10 and 0.20		
Less than 0.10	Low	Inexpressive

Source: Costa and Pinto (2021, p. 9, our translation), based on Hair et al. (2017) and Kline (2016).

A broader assessment can be performed using the determination coefficients (R^2) of the endogenous constructs: deliberative process and common good. R^2 is expected between 0.50, moderate, and 0.75, substantial (Costa & Pinto, 2021, 2023; Hair, Ringle, & Sarstedt, 2011; Henseler, Ringle, & Sinkvics, 2009). An R^2 below the moderate level may be due to a lack of knowledge of factors relevant to the variance of the explained construct.

5. ANALYSIS AND DISCUSSION OF THE RESULTS

Table 2 presents the results related to the measurement of the constructs. The transparency and common good constructs did not receive changes and remain with satisfactory convergent validity, internal consistency, and discriminant validity. The participation construct received two indicators (PA4 and PA5), which resulted in outer loadings higher than 0.7. Thus, it surpassed the quality of the construct in previous research (Costa & Pinto, 2023).

On the other hand, the construct deliberative process had a simple wording change in one of its indicators (DP1), which remained with outer loading between 0.6 and 0.7. Then an ideal quality was reached in the participation construct and there is still room for improvement in the deliberative process construct.

TABLE 2 VALIDATION OF CONSTRUCTS

Latent variable (Construct)	Convergent validity			Internal consistency		Discriminant validity	
	Outer loadings		AVE	Cronbach's alpha (α)	Composite reliability	Cross loadings	HTMT
Reference criteria		> 0.6	> 0.5	> 0.7	> 0.7	*	**
Transparency	TR1	0.814	0.661	0.827	0.837	Yes	Yes
	TR2	0.892					
	TR3	0.795					
	TR4	0.744					

Continue

Latent variable (Construct)	Convergent validity			Internal consistency		Discriminant validity	
	Outer loadings		AVE	Cronbach's alpha (α)	Composite reliability	Cross loadings	HTMT
Reference criteria		> 0.6	> 0.5	> 0.7	> 0.7	*	**
Participation	PA1	0.706	0.642	0.859	0.890	Yes	Yes
	PA2	0.738					
	PA3	0.892					
	PA4	0.905					
	PA5	0.744					
Deliberative process	DP1	0.661	0.611	0.892	0.900	Yes	Yes
	DP2	0.733					
	DP3	0.757					
	DP4	0.864					
	DP5	0.875					
	DP6	0.822					
	DP7	0.735					
Common good	CG1	0.798	0.708	0.898	0.916	Yes	Yes
	CG2	0.867					
	CG3	0.855					
	CG4	0.826					
	CG5	0.860					

Note: Table based on Hair et al. (2017), according to Costa (2018) and Costa and Pinto (2021).
*Higher factor loadings in the respective constructs.
**Confidence interval does not include 1.
Source: Elaborated by the author.

In addition to outer loadings, convergent validity was measured by AVE. The lowest AVE was 0.611 (deliberative process), which satisfactorily meets the expected level (> 0.5). An improvement in this construct may provide an elevation of its AVE.

Two measures of internal consistency were used: Cronbach's alpha and composite reliability. There are two types of composite reliability: a liberal one (rho_C), which presents higher values for internal consistency, and a more reasonable one, which is an intermediate value between Cronbach's Alpha and the most liberal measure (Hair et al., 2021). Analyzing the decrease in the composite reliability index (rho_A) from 0.945 (Costa & Pinto, 2023) to 0.916, it can be seen that the common good construct reduced the redundancy of its indicators (Hair et al., 2021).

Discriminant validity was confirmed by analyzing the cross loadings and HTMT. While the first indicated that there is no indicator more correlated with another construct than the one to which it belongs, the second served to verify that there are no significantly similar constructs in this research. As seen in Table 3, the confidence interval does not include the number 1 because the highest upper limit is equal to 0.904. In other words, the transparency, participation, deliberative process, and common good constructs are in fact different from each other.

TABLE 3 HTMT

Constructs	Original sample	Mean Bootstrapping	Limits	
			Inferior 2,5%	Superior 97,5%
Transparency ↔ Participation	0.579	0.582	0.475	0.688
Transparency ↔ Deliberative process	0.829	0.829	0.742	0.904
Transparency ↔ Common good	0.597	0.597	0.477	0.704
Participation ↔ Common good	0.376	0.377	0.237	0.513
Participation ↔ Deliberative process	0.628	0.627	0.521	0.723
Deliberative process ↔ Common good	0.659	0.659	0.551	0.755

Source: Elaborated by the author.

Thus, the inclusion of two indicators to the participation construct (PA4; PA5) was effective. In the deliberative process, in turn, the new wording for the DP1 indicator is an intermediate possibility, which contributes to the permanence of this construct in an exploratory phase.

This persistence of the DP1 indicator in the exploratory range directs to the review of one relevant analysis criterion: cross-cutting spaces, which are "spaces that cross sectors to integrate different points of view" (Tenório, 2012, p. 39, our translation). While DP1 contemplated the notion of spaces, it missed the perception of transversality. Thus, in line with the perspective absent in DP1, to complete the content proposed in the respective analysis criterion, it is proposed to test one new indicator: DP8 – in the territory where I live, there are spaces for the integration of different viewpoints, from varied sectors.

After measuring the constructs, the structural model was estimated based on direct and indirect effects between constructs. The analysis of path coefficients (Table 4) confirmed the lack of direct effect of participation on the common good. This inexpressiveness is attributed to the p-value (0.815) because, considering the significance level of 5%, a p-value of up to 0.05 is expected. The other direct effects exceed the level below which they are considered low or inexpressive (0.1).

TABLE 4 PATH COEFFICIENTS (DIRECT EFFECTS)

Direct effect	Original sample	Mean Bootstrapping	Standard deviation	P-Value
Transparency → Deliberative process	0.587	0.587	0.048	**0.000**
Transparency → Common good	0.190	0.191	0.083	**0.021**
Participation → Deliberative process	0.264	0.266	0.048	**0.000**
Participation → Common good	-0.017	-0.015	0.071	**0.815**
Deliberative process → Common good	0.481	0.483	0.085	**0.000**

Source: Elaborated by the author.

It is worth emphasizing the increase in the effect of participation on the deliberative process in this research (0.264) compared to the previous one (0.163) (Costa & Pinto, 2023). This difference is a reflection of the improvement of the constructs involved. The effect of transparency on the common good (0.190) is the lowest among the valid direct ones. Beyond this direct effect, transparency, mediated by the deliberative process, positively affects the common good with a higher coefficient (0.282), considered average or typical. In Table 5, the indirect effects are presented.

TABLE 5 INDIRECT EFFECTS (MEDIATION)

Direct effect	Original sample	Mean	Standard deviation	P-Value
Transparency → Deliberative process → Common good	0.282	0.283	0.055	0.000
Participation → Deliberative process → Common good	0.127	0.129	0.033	0.000

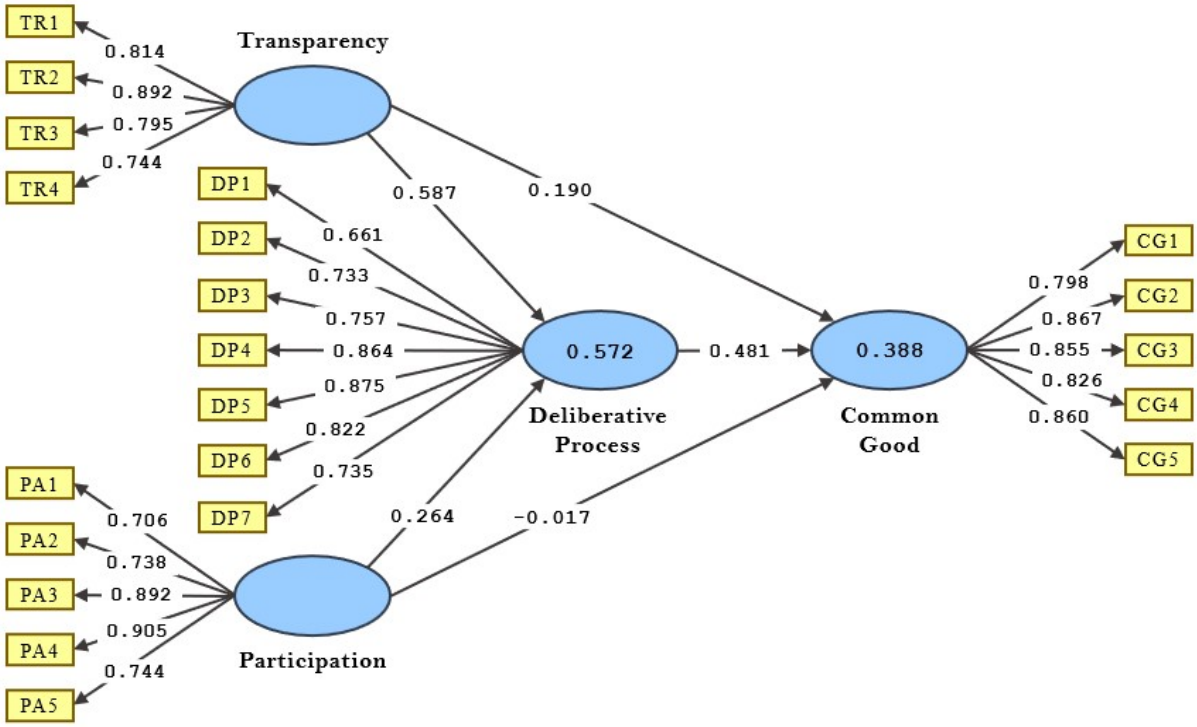
Source: Elaborated by the author.

As there is a direct and indirect effect of transparency on the common good, it is concluded that the mediation between these constructs is partial. On the other hand, the effect of participation on the common good is fully mediated because there is only an indirect effect (0.127) since the direct effect was considered insignificant. It is also observed that this coefficient was low (0.063) in the previous research (Costa & Pinto, 2023). Thus, the quality of the proposed improvement to the structural model of deliberative citizenship is clear.

In practical terms, Costa (2018) distinguished between the deliberative process and the main factors relevant to its quality: transparency and participation. Further on, Costa and Pinto (2021, 2023) demonstrated, through indirect effects, how the deliberative process is a means to value the common good in society. The present research corroborates these results.

The deliberative process had the R^2 increased from 0.547 (Costa & Pinto, 2023) to 0.572. Regarding the common good, its coefficient of determination (R^2) was increased from 0.338 to 0.388. The change was small but consistent with the improvement made. These data indicate that 57.2% of the variation in the deliberative process and 38.8% of the common good are explained by the structural model being improved. Figure 2 summarizes the results.

FIGURE 2 MEASUREMENT OF THE STRUCTURAL MODEL OF DELIBERATIVE CITIZENSHIP



Note: Adapted layout (Costa & Pinto, 2021, 2023).
Source: Elaborated by the author.

VIF analysis indicated no excessive collinearity between constructs and between indicators. Thus, it is reinforced that the components of the structural model are not redundant. The Q^2 test had a positive result, which corroborates the predictive relevance of the structural model. The f^2 analysis confirms the non-existence of the direct effect of participation on the common good (0.000), but casts doubt on the direct effect of transparency on the common good, given that the f^2 relative to this effect is very low (0.027), p-value of 0.284.

Considering f^2, it is stated that both participation and transparency, fully mediated by the deliberative process, positively affect the common good. Mediation is the main contribution of the structural model of deliberative citizenship, ratified in all scenarios presented in this research.

The structural model of deliberative citizenship has been improved. Despite not reaching a moderate R^2 for the common good construct, it establishes consistent direct and indirect effects,

in addition to validating two indicators of the "participation" construct, whose outer loadings had substantially improved values.

Therefore, the theoretical understanding of the criteria of deliberative citizenship and the factors related to the decision-making processes in the scope of social management was expanded. The two indicators proposed for the participation construct (Costa & Pinto, 2021, 2023) were sufficient to reach the desired level of quality. On the other hand, the result of the new wording proposed for a deliberative process indicator (Costa & Pinto, 2021, 2023), regardless of being satisfactory in exploratory research, provoked a closer look at the respective analysis criterion (cross-cutting spaces), leading to the proposition of one new indicator. Just as the outer loadings of the participation construct were satisfactorily adjusted, it is suggested that there is still room for adjustments in the deliberative process construct.

6. FINAL CONSIDERATIONS

The improvement of this instrument favors more precise analyses concerning several factors that affect the deliberative process. If the questionnaire is periodically applied, it can be inferred whether the quality of the deliberative process is increasing or decreasing. It is also possible to verify whether socioeconomic factors, such as the human development index (HDI), interfere with the perception of the common good.

This model, as a representation of reality, can be adapted according to what is most relevant to social actors interested in deliberative citizenship. Beyond the relationship between the constructs, the model allows testing of the interference of control variables (Costa, 2018), such as the academic/professional profile or the type of representation in public policy management councils. This is a possibility for further analysis.

The notion of quality of management organs is implicit in the indicators. However, a specific construct was not created, even though there are, among the criteria of deliberative citizenship, two specific indicators for this purpose: existing agencies and monitoring agency, related to the discussion process. Another indicator related to the management is the "responsibility of the actors", relative to the local administrations (Tenório, 2012, p. 39). The quality of management is relevant, but it can also be measured by more traditional indicators.

It is important to have public policy monitoring agencies, as well as the quality of the deliberative process and the effectiveness of social management in valuing the common good. Thereby, recognition by the actors of a participatory methodology is necessary in the social, political, and technical ambits, that is, a social, political, and technical acceptance, criterion related to the inclusion (Tenório, 2012, p. 39). Perhaps this criterion was not absorbed by the model due to its triple scope. Regardless of not being included in the model, it is a process that is very relevant to the co-production of the public good.

The application of this methodology is a form of social participation. Although elaborated by researchers, the assimilation and use of this knowledge by people who participate more actively in public policy management councils are encouraged. For this purpose, it is necessary to value the criteria of deliberative citizenship related to autonomy, with emphasis on the *possibility of exercising their willingness*. It is expected that the participants, upon learning about the factors that limit the quality of the deliberative process in their respective municipalities, will propose scientifically based

solutions to the problems of social management. Then local and national initiatives are valued, to monitor social management, with regard to the criteria adopted in the structural model of deliberative citizenship and its improvements.

In this research, the municipal scope was chosen due to its proximity to a greater number of social actors. However, the text of the indicators can be adapted by changing the relevant parts. In fact, the transparency, participation, and deliberative process constructs were initially validated in the context of university management (Costa, 2018). Considering that the context of citizen participation is relevant for the adaptation and application of the questionnaire, this model can be applied in conjunction with integrative methodologies, which search "to value sensibilities and intuitions already discarded by the classic view of science as tools of social management" (Giannella, 2014, p. 113, our translation).

It is interesting to use the constructs of deliberative citizenship in bibliometric analyses. For example, it is to be expected an expressive amount of works that links transparency and participation, even in areas not specific to social management. However, it is notable that the discussion around the common good is less recurrent. These studies could initially be performed in journals in the field of public administration.

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Jhonathan Cavalcante da Costa: Conceptualization (Lead); Data curation (Lead); Formal Analysis (Lead); Investigation (Lead); Methodology (Lead)); Software (Lead); Writing - original draft (Lead); Writing - review & editing (Lead).

DATA AVAILABILITY

The entire dataset supporting the results of this study is available upon request to the corresponding author. The link to the application form will be emailed to interested parties.